Clinical Medicine

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EDITORIAL

Cancer and the General Practitioner

Because of self referrals to specialists, it is highly improbable that the G.P. is the first doctor to see the majority of cancer patients

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JAMES M. NORTHINGTON, M.D., *Editor*

There is abundant evidence that there existed from the earliest times among all peoples, among a great variety of all other animals, and among many plants, malignant growths which were highly fatal and which we have known since the time of the Roman ascendency under the general term Cancer. It must be that this name was given because, when the tumor was removed and later returned, the idea suggested itself to the mind of someone in high repute that processes from the tumor must have extended out into healthy tissue, somewhat as the five pairs of members extend out from the crustacean we call crab, but which the Latins call Cancer.

For hundreds of years it has been recognized that cancer apparently removed in toto is apt to recur locally and at a distance, having travelled in the latter instance by means of the circulation.

Excision by knife and searing with hot iron, and more or less complete destruction by caustic chemicals were the principal means of treatment until the discovery of the x-rays and of radium. Since that time these agencies have been added to and have taken a prominent place in the anti-cancer armanentarium.

A hundred years ago the revelations of microscopic examination were brought to the aid of those charged with the responsibility of making the diagnosis, and soon it was widely proclaimed that in the near future cancer would be diagnosed and treated so early that its

conquest was in sight. Unhappily, this anticipation has been realized to a small degree only. It is a mere commonplace to hear an enthusiastic, but poorly-informed, speaker before a medical body announce that all we need to do is to make the diagnosis "early enough," following this with a statement that the general practitioner sees the patient first, and strongly implying that if the G.P. only did his work well soon there would be no more cancer. No idea could be more absurd, or more in disregard of the evidence before us. No group of those best informed on the subject has ever estimated the percentage of possible cures, consequent on the best known treatment and the earliest possible diagnosis, as beyond 17%. Other such groups have estimated the curability rate as low as 5%. These estimates, be it noted, are based on the assumption of ideal conditions as to diagnosis and treatment.

INCIDENCE AMONG SPECIALISTS

If you are inclined to believe that this picture is needlessly gloomy, consider the great number of world authorities on cancer who have died of cancer. Over many years I have applied to the American Cancer Society for information as to the deaths by cancer among the membership of this body. Each inquiry has failed of its purpose. The answer has been, invariably, to the effect that the Society has no such figures. Is it conceivable that such figures would not be kept and widely proclaimed as the most irrefutable evidence that utilization of our present knowledge of cancer would greatly reduce the death rate—did the figures show the death rate among these distinguished cancer specialists to be materially lower than among the population at large of corresponding age? William H. Welch and a dozen others of those knowing most about cancer died of cancer. Within the past few weeks a surgeon who had been president of the American Medical Association and of the American Surgical Association, a world authority on cancer, died of cancer after 27 major operations over a period of nearly two years. There is good reason to believe that the percentage of the founders of the American Cancer Society to die of cancer was larger than that of the whole medical profession and higher than that of the general population.

ON SELF-EXAMINATION

An aspect of the cancer problem that is truly alarming to the thoughtful doctor is the present wide advocacy of regular self-examination of women for breast cancer. Students of medicine over the centuries have been earnestly warned of the perils of expectant attention directed to any part. It is unlikely that any doctor ever did more harm in firmly convincing healthy women that they had cancer than did Joseph Colt Bloodgood. Even he, however, said (I heard him say it) "when a woman comes to me saying she has found a lump in her breast, I tell her to wait till I examine her, before telling me which breast. Then if I find the lump in the same breast, the finding will be significant." And, he added, "the breast is naturally a lumpy organ."

It seems pertinent to quote here from Sir James Padgett's (1814-1899) *Lectures on Surgical Pathology*: "All authorities are agreed that, when any trace of secondary Cancer exists, the removal of the parts affected gives scarcely any hope of a favorable result; accordingly, operations under these circumstances, unless merely for the relief of local suffering, are discountenanced by all respectable surgeons. The disease, however, is one

of which the ignorant as well as the learned have a well-founded dread; hence it presents a large field for the practice of imposture and for that less deliberate, but often not less hurtful kind of quackery which is the result of ignorance, mingled with meddlesome desire to do good."

True it is that improved technics now justify relaxing somewhat the stringency of the stricture expressed in the first sentence; but the burden of evidence at the present time appears to justify the conclusion that a great number of victims of cancer are today being subjected to mutilating operations, which have no reasonable chance of being more beneficial than maleficial. With the multiplication and improvements of the means of smoothing the downward road, a greater number of this class of patients would be happier, even live longer, under palliative than under radical treatment.

It is recognized that the technics for diagnosis and treatment of cancer have been vastly improved in the last score of years by men and women working earnestly and intelligently for the amelioration of the distressful state of a large percentage of the human race. All honor to them. It is earnestly urged that these high priests and high priestesses constantly exert what influence they may, that all those undertaking to put into practice the discoveries which appear to be great advances give the most careful consideration to the limitations of the methods discovered and to their own limitations.

Finally, attention is called to the following facts: (1) At the present day of self referrals to specialists, it is highly improbable that the G.P. is the first doctor to see the majority of cancer patients; (2) the cancer death rate is much lower in the country districts and the small towns than in the cities; and (3) it is a rank injustice, even an absurdity, to expect a G.P. to diagnose a cancer in a person other than himself earlier than a world authority on cancer can make the diagnosis in himself.

Depressive Psychoses in Later Life

Excluding a patient who remained for nursing care because of her fracture and an 84-year-old suffering from a superimposed organic psychosis, the average duration of hospitalization was 5.8 weeks. This is in marked contrasts to the length of hospitalization required by similar patients prior to electroshock therapy. In one series of 67 involutional depressions reported in 1922, the patients who recovered had been hospitalized for an average of 20½ months. In another such group of 93 patients who received hydro, occupational and psycho-therapy during the thirties, 46% recovered after a median duration of 31 months; 18% were still ill 10 years later; 13% committed suicide, and 23% died. In a report made during the preshock era on patients 41 to 74 years old: 34% recovered, 22% made a social remission, 30% were unimproved, 2% committed suicide, and 6% died. There were no final data on the remaining 6%.

M.D. Kemp, M.D., et al, *N.C. Med. Jl*, 15:164, 1954.

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1. Gitman, L., and Kaplowitz A.: Use of diethylstilbestrol in complications of pregnancy. New York State J. Med. 50:2823: 1950.
2. Ross, J.S.: Use of diethylstilbestrol in the treatment of threatened abortion. N. Nat. M.A. 43:20, 1951.
3. Karnaky, K.J.: Am. J. Obsts. & Gynec. 58,622. 1949.

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Combined Treatment of Rheumatoid Arthritis With Solganal and Cortisone

Author reports use of Solganal enabled the successful employment of much lower doses of Cortisone, thereby avoiding side effects usually inherent in high dosage therapy

PETER J. WARTER, M.D.,* *Trenton, New Jersey*

A study of 30 patients was undertaken to determine whether combined treatment with Solganal® and cortisone would achieve more beneficial effects in rheumatoid arthritis than would Solganal or cortisone alone.

The patients were divided into three groups: Group I, those who had had Solganal with reasonable improvement but remained static thereafter until cortisone was supplemented; Group II, those who were started simultaneously on Solganal and cortisone; Group III, those who responded well to Solganal and to whom, during the acute episodes of the disease, Cortogen® was administered with Solganal to obtain a rapid remission.

The diagnosis of rheumatoid arthritis was established in all these cases. Cases of rheumatoid spondylitis, psoriatic arthropathy, Felty's syndrome, Reiter's syndrome, and the arthritis of ulcerative colitis were excluded.

Rheumatoid arthritis is a systemic disease of unknown cause occurring at all ages. It may have an acute, subacute, or chronic phase. In the early stages the disease may be reversible, and exacerbations are not uncommon; however, it is usually a chronic progressive disease with joint involvement as the principal manifestation. Usually it is polyarticular and symmetrical. The affect-

* Chief of the Department of Medicine, William McKinley Memorial Hospital, Trenton, New Jersey, and Assistant Professor of Medicine, Hahnemann Medical College, Philadelphia, Pennsylvania. Read before the Academy of Medicine of New Jersey.

ed joints are often fusiform, the characteristic symptoms pain, stiffness, swelling, and other signs of inflammation. Subcutaneous nodules, tenovaginitis, and muscular atrophy are frequently observed. The rheumatoid process often leads to deformity, subluxation, and ankylosis. The pathological changes generally consist of proliferation of the synovial tissue and joint effusion; and osteoporosis and destruction of cartilage and subcrondral bone—demonstrable by x-ray examination. Frequently there is an elevated erythrocyte sedimentation rate and sometimes anorexia, anemia, weight loss, fever and leukocytosis.

The classification which has been accepted by the American Rheumatism Association follows:

Stage I, Early

*1. No destructive changes revealed by x-rays.
2. X-ray evidence of osteoporosis may be present.

Stage II, Moderate

*1. X-ray evidence of osteoporosis, with or without slight subchondral bone destruction; probably slight cartilage destruction.
*2. No joint deformities, although there may be limitation of joint mobility.
3. Adjacent muscle atrophy.
4. Extra-articular soft-tissue lesions, such as nodules and tenovaginitis probably.

Stage III, Severe

*1. X-ray evidence of cartilage and bone destruction, in addition to osteoporosis.
*2. Joint deformity, such as subluxation, ulnar deviation or hyperextension, without fibrous or bony ankylosis.
3. Extensive muscle atrophy.
4. Extra-articular soft-tissue lesions, such as nodules and tenovaginitis, probably.

Stage IV, Terminal

*1. Fibrous or bony ankylosis.
2. Criteria of stage III.

It is equally important to classify these cases as to the stage of functional impairment, because the threshold of pain and the tolerance of incapacitation varies so greatly in individuals, and this should guide in advising as to physical activity, encouragement to the patient and the degree of psychotherapy. Many patients profit by the services of a psychiatrist.

Class I

Complete functional capacity with ability to carry on all usual duties without handicaps.

Class II

Functional capacity adequate to conduct normal activities despite discomfort or limited mobility of one or more joints.

Class III

Functional capacity adequate to perform only little or none of the duties of usual occupation or of self care.

Class IV

Largely or wholly incapacitated with patient bedridden or confined to wheel-chair, permitting little or no self care.

A patient may have progressed to stage III criteria and functionally continue in class II. However, the reverse of this is more often the case. Functional capacity may be out of proportion to the pathology. As one may restrict the motion of a joint at will, functional capacity can only be measured subjectively, except where the x-ray shows evidence of bony ankylosis. Complete relief can still have a patient graded as II because of irreversible inactive rheumatoid changes. All grade II's do not have minor distress or activity.

* The criteria prefaced by an asterisk are those which must be present to permit classification of a patient in any particular stage.

METHOD OF STUDY

All the patients followed the same treatment regimen. Rest periods were prescribed according to the activity of the disease. The rest was either local or general, fitted to work needs if the patient was ambulant and working. Exercises were prescribed by the physiatrist. The objective of dietary management was to reduce the obese in a conservative manner, to increase the nutrition of the malnourished, and to treat specifically those afflicted with diabetes mellitus, kidney disease, liver disease, and heart disease. Supplementary vitamins were added and psychotherapy utilized when necessary, and there was an extensive program of exercise, massage, hydrotherapy, and work reconstruction. Corrective aids were used, such as crutches, canes, and braces. Surgical and nonsurgical orthopedic problems were treated.

Before cortisone therapy was instituted we made the following examinations:

1. Complete blood count
2. Erythrocyte sedimentation rate
3. Urinalysis
4. Blood calcium
5. Blood phosphorus
6. Glucose tolerance
7. Cephalin flocculation
8. Thymol turbidity
9. A-G ratio
10. Wassermann or Kline
11. X-ray of the femurs in those past 50 years for osteoporosis
12. ECG for those past 40 years for coronary disease.

Daily urinalyses for quantitative sugar were done by the patient and checked at weekly intervals by the laboratory. Blood pressure readings were taken weekly, complete blood counts done every two weeks, cephalin flocculation and thymol turbidity tests repeated in four weeks, and x-ray pictures of the long bones were again taken after eight weeks.

The contraindications to cortisone therapy which were recognized were an increased glucose tolerance, advanced osteoporosis, and ECG evidence of coronary insufficiency.

Group I. Eighteen patients were studied, all showing pathologic changes sufficient to classify them in Stages III and IV. The following historical facts are pertinent:

(1) Age: From 23 to 67 years; average, 50.33 years.
(2) Sex: Females, 11; males, 7.
(3) Duration of disease: From 4 to 20 years; average, 8.13 years.

All of these patients had received gold therapy (Solganal) for one to three years prior to this investigation. All in this group reported and were observed to have slight to moderate relief from Solganal, but their state became static and without satisfactory remission. Cortogen therapy was begun with 100 mg. daily, in divided doses. Two patients derived no additional benefit; 16 showed moderate to dramatic improvement:

1 — Temporary relief
3 — Moderate relief
9 — Excellent relief
3 — Dramatic relief.

After two weeks of this schedule the Cortogen was reduced to 75 mg. per day in divided doses. Solganal was continued, 25 mg. parenterally at weekly intervals. The two patients who received no additional aid were not continued on Cortogen. Sixteen patients maintained their improvement. At the next two-week interval the Cortogen was reduced to 50 mg. daily in divided doses, Solganal being continued 25 mg. weekly. Three patients, unable to maintain their improvement, were restored to 75 mg. Cortogen daily (in divided doses). Thirteen patients continued to maintain their improve-

ment. Eight weeks later two patients (improvement "dramatic") were given 25 mg. of Cortogen daily. They continued to maintain their improvement; six weeks later the Cortogen was stopped and Solganal was given every two weeks. Six months have elapsed and there has been no reactivation of the rheumatoid process. Eleven patients have held their degree of improvement with 50 mg. of Cortogen daily in divided doses and 25 mg. of Solganal at weekly intervals. No evidence of toxicity has been noted to date.

Group II comprised six patients, four of whom had had ACTH and two of whom had had neither hormonal nor chrysotherapy prior to this investigation. Those having had ACTH had splendid response while receiving ACTH, but had an acute activation of their disease very soon after the hormone was stopped. These patients were classified in Stage II. The data are as follows:

(1) Age: From 26 to 69 years; average, 52.5 years.
(2) Sex: Females, 3; males, 3.
(3) Duration of the disease: From 10 months to 4 years; average, 2 years.

These patients were started simultaneously on Solganal and cortisone. The first week, Cortogen was given in divided doses totaling 100 mg. daily; the second week, 50 mg. daily.

(a) 1—Moderate improvement
(b) 3—Excellent improvement
(c) 2—Dramatic improvement

All six patients were maintained in their relief on the above scheduled doses. After three months two patients were able to stop Cortogen. In all six, Solganal is being given now at two-week intervals. No evidence of toxicity has been noted to date.

Group III contained six patients who have had excellent results with Solganal, but have had periodic aggravations (average 8 months) which have produced an increase in residual pathology brought on by each succeeding attack, and resulting in a loss of four to eight weeks of employment. Data as follows:

(1) Age: From 25 to 63 years; average, 51.5 years.
(2) Sex: Females, 4; males, 2.
(3) Duration of the disease: From 2 to 12 years; average, 2.3 years.

These patients were given 25 mg. of Solganal weekly at the onset of exacerbation and 100 mg. of Cortogen daily in divided doses until remission, then gradually reduced and discontinued. The average length of this course of Cortogen was 3.5 weeks, average work days lost 5, saving an average of 35.5 work days. There has been insufficient time elapsed (4 months) to determine whether or not this procedure will prolong the remissions in this group. No toxic effects were observed.

SUMMARY

Combined therapy with Solganal and cortisone in the treatment of 30 patients with rheumatoid arthritis aided all but two patients. The combined therapy produced results superior to those achieved with Solganal or cortisone alone. The treatment using Solganal and cortisone concomitantly enabled the successful employment of much lower doses of cortisone, thereby avoiding the side effects inherent in high-dosage cortisone therapy. The combined use of Solganal and cortisone in patients who lost their remission while on gold therapy resulted in their return to work an average of 35 days earlier than when gold alone was used. There were no toxic symptoms or findings during the period of treatment with Solganal and cortisone.

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Some Facts About Voice And Speech Disorders

"Tongue-tied" individuals usually articulate just as well as any normal person—all other speech disorders have nothing to do with visible or supposed "tongue-tie."

G. E. ARNOLD, M.D., *New York, New York*

Almost always when a child is brought to the physician because he does not speak as well as may be expected of him, a short frenum of the tongue is first considered. Two thousand years ago the Roman encyclopedist, A. Cornelius Celsus wrote: "Several patients have talked after the dissection of the frenulum if they got well again; I have, however, known some who could protrude the tongue widely after the operation, yet the ability to speak did not develop." As a rule, the few individuals whose tongue tip really is tied to the floor of the mouth articulate just as perfectly as any normal person. Only one speech sound is distorted by this harmless malformation — the trilling "R" of Spanish, Italian, Southern German, and all Slavic languages.

The indications for frenulotomy must therefore be restricted to the following cases: (1) when sucking and chewing are interfered with in rare cases; (2) when a foreigner needs the trilling "R" in his language; (3) in the case of singers who cannot reach perfection on opera and concert stage without using the trilling lingual "R"; 4) For psychological reasons, as when a patient feels unduly self-conscious about his tongue-tie.

All other speech disorders have nothing to do with a visible or supposed tongue-tie! Consequently, frenulotomy has no place in their cure. The hope of improving speech by means of frenulotomy is about as vague as if the excision of an abnormal toe nail were claimed to cure a paralysis of the legs or a curva-

ture of the spine. An ingrown toe nail can certainly be very painful and disturb walking, yet no one would draw the erroneous conclusion from its presence that all disturbances of walking are the result of abnormal toe nails.

DELAYED SPEECH DEVELOPMENT

This condition is diagnosed when a child cannot speak although he is more than three years old, not deaf, and not mentally retarded. Among the causes we find birth injuries, frequent illnesses, malnutrition, grave psycho-physical neglect, encephalitis, and hereditary factors. In many cases the father was a late talker or other members of the family, especially on the father's side, show a similar condition. In many cases the child is late in sitting, crawling, standing, walking. Ossification of the wrist bones may occur later than normal. Motor co-ordination and mental develolpment are apt to be less advanced than in the average child of the same age. On the other hand, hearing tests demonstrate good hearing and good speech reception. It is always important to make psychometric tests. Some of these children do not speak at all for several years although they may understand speech, a condition which is called hearing muteness (audimutitas). Others know a few words or use a limited and distorted vocabulary. Neurologic, pediatric, encephalographic or other special studies should be made whenever indicated.

The most important phase of therapy is the offer of proper guidance to the parents in order that they may promote the natural progress of speech. This includes a stimulating environment such as a kindergarten. These children need kind, persistent and patient demonstration of proper enunciation, general mental stimulation and emotional support and encouragement. Speech drills are usually of no avail, because these children are not able to sit still long enough.

FUNCTIONAL DYSLALIA

This inability to articulate speech sounds correctly is a physiological occurrence during the second year of life when the development of speech takes its normal course. Pathologically, the inability to articulate accurately persists for a longer period in all cases of delayed speech development.

Difficulty in learning to pronounce common words cause the long time use of the familiar distortions of baby talk. When many or all speech sounds are affected, the condition is termed universal dyslalia. In extreme cases this may produce a speech of the child's own invention, which is intelligible only to the mother. In general, the abnormal speech sounds are omitted, substituted for others, or transposed from syllable to syllable: for instance, "prandga" for "grandpa." Accordingly, one may also differentiate literal, syllabic and verbal dyslalia.

The diagnosis is made after hearing tests have permitted the exclusion of hearing disorders. Intelligence tests differentiate true mental retardation and frequently show that the delayed speech of such children is associated with a general delay of their psychomotor maturation. Very interesting results are obtained with adequate psychomotor tests of coordination, body control, and manual dexterity. Many of these children are awkward in other motor performances as well as in articulatory movements of the speech organs. Examination assists in excluding pituitary or thyroid deficiencies which may produce similar symptoms (myxedema, mongoloidism, cretinism, etc.).

The therapy consists in skilled guidance in all educational measures, correction of possible physical deviations, improvement of emotional adjustment, and systematic speech correction once the child is old enough to sit still and concentrate. Speech therapy usually begins with the usual and tactile demonstration of the correct articulatory movements which are then practiced with isolated sounds, simple syllables, simple words, short sentences, and finally in spontaneous speech.

Since most of these defects tend to disappear in time, and since speech usually makes rapid progress during the first years of school, the prognosis is usually good. If defective articulation persists until adulthood, a more severe disturbance of personality, auditory perception, psychomotor coordination or intelligence must be suspected and recognized with the help of all available tests of those respective functions.

OTOGENIC DYSLALIA

Completely deaf children remain mute because, hearing no certain sounds, they can not imitate those sounds. When the hearing loss is less the development of speech proceeds slowly and remains disturbed by typical distortions of articulation, the so-called hard of hearing speech. When a child is too young to be tested with audiometer or tuning forks, the observation of the involuntary hearing reflexes yields valuable information. If a child looks up or turns around whenever a bell or a whistle is sounded it is obvious that he hears. The acuity of hearing can be estimated by varying the intensity and distance of the sound, this may be supplemented by several new methods. The psycho-galvanic skin resistance test is based on conditioned reflexes of the sweat glands to subsequent auditory and faradic stimulation. Another combination of the audiometer with a psychological test situation is used in the peep-show. Two modifications of electroencephalography record the brain wave response to auditory stimulation. Further information on the function of the labyrinth is obtained from the vestibular tests.

Enlarged tonsils and adenoids may be the cause of recurrent ear infections, but they are never responsible for mutism. The severity of the speech disorder depends on time of onset, type and degree of deafness, age of the patient, and the amount of education received. At first, deaf children do not speak at all, although they babble for some time. The voice is shrill, distorted and unmelodious. After special instruction in a school for the deaf, their speech becomes more or less fluent, and intelligible. Yet it always remains distorted by typical faults of articulation: the sibilant sounds are often omitted or sound dull, lisping or harsh; substitutions of complicated by easier sounds, and a general inaccuracy of pronunciation complete the impression. All this is due to the absent or defective auditory self-control of articulation.

All possibilities of audiologic rehabilitation should be fully exploited at the earliest possibility. This means the treatment of ear, nose and throat diseases whenever indicated; the fitting of a suitable hearing-aid; auditory training for the development of acoustic attention; lip-reading for the improvement of speech interpretation; and speech correction which improves the disability of oral expression.

In general, prognosis is better, the earlier one begins the rehabilitation or treatment. The first suspicion of a hearing loss justifies the immediate referral to an otologist or audiologic clinic.

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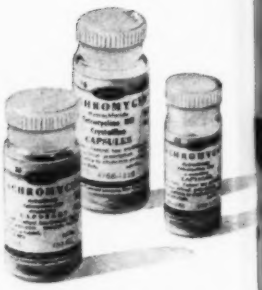

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DYSGLOSSIAS

This term is applied to the disorders of articulation due to organic defects of the peripheral speech organs. Paralysis, malformation or injury of the lips induces labial dysglossia which distorts the labial sounds. The lisping of dental dysglossia can be observed daily in persons whose front teeth are missing or maloccluded. Lingual dysglossia results from paralysis, injury or removal of the tongue. Contrary to general belief, however, even after total loss of the tongue intelligible speech can be re-developed in a relatively short time.

Of great practical importance is palatal dysglossia. Since the movement of the soft palate determines the presence or absence of nasal resonance, any interference with its phonatory elevation produces nasal speech. Congenital division, paralysis or destruction of the velum causes the excessive nasality of organic rhinolalia aperta. The functional variety of open nasality is due to habitual or psychogenic hypoactivity of the velum during phonation. The "nasal twang" of certain dialects belongs to this group. Absence of the reflex suggests organic hypoinnervation, while normal gagging proves that the velum can be elevated. When the palatal defect is due to a congenital cleft, the nasal quality of speech is complicated by secondary disorders of articulation which are also due to the inability to use the palate for the articulation of all oral consonants.

Nasal speech is due to nasal obstruction only where obstruction by polyps, large adenoids or hypertrophic turbinates can be observed. The common cold disturbs nasal resonance only as to the three nasal sounds M, N and Ng. Occasionally closed nasality exists when a patient always keeps the soft palate contracted whenever he talks, instead of relaxing it during the articulation of the nasal sounds. These four possibilities of open and closed nasality sometimes combine to form four types of mixed rhinolalia.

Therapy is a combination of surgical, re-educational and psychological procedures which should be instituted without delay. Plastic operations of labial or palatal clefts produce the best results if undertaken before the development of speech. Nasal operations must be reserved to obvious nasal obstruction. The intricate problem of mixed rhinolalia requires special attention. The functional forms of nasal speech must be treated by re-educational speech correction.

DYSARTHRIAS

These are disorders of speech due to organic lesions of the coordination centers, pathways or nuclei of the cranial nerves supplying the speech organs. Hence, any brain disease affecting these structures may cause dysarthria. In general, the symptoms are determined by the localization and extent of the cerebral lesion, and not by the causative illness itself. This is the reason why varying audible symptoms appear in different cases of the same affection; e.g., in cerebral palsy. On the other hand, it is possible to recognize certain neurological diseases by their effects on speech. This is easy when a typical pathological process results in pathognomonic disturbances such as in Parkinsonism or disseminated sclerosis. Although an etiological classification of dysarthrias is interesting to the neurologist, it is simpler to describe them on an anatomical basis.

Pyramidal dysarthrias are characterized by hypertonic, spastic, plump and clumsy movements of all facial and articulatory muscles. The voice sounds tense, breathy or aphonic, while speech makes a

slurred or explosive impression. Extrapyramidal dysarthrias can be subdivided in hyperkinetic, hypokinetic, rigid and iterative types. Accordingly, the voice may be shouting or weak; its monotony points to pallidar lesions. Speech may be disturbed by the rhythmical repetitions of palilalia as in striate affections, or by the uncontrollable respiratory, phonatory and articulatory distortions due to athetosis. Frontopontine dysarthrias result from the inhibition of voluntary movements. Phonation and articulation fade away in monotonous mumbling before the intended phrase has been completed. Cerebellar dysarthrias are marked by rough, low or violent phonation. Besides scanning or drawling speech there may be slow or hasty articulation. The audible manifestations of bulbar dysarthrias show more uniformity. Palatal paralysis explains the open nasality, while paralysis of the tongue or other articulatory muscles causes the indistinctness of slurring speech.

Speech re-education is an important part of the general rehabilitation program. It should be planned in constant cooperation with the specialists in physical medicine, rehabilitation and psychology. In general, speech therapy for dysarthria endeavors to relax spastic muscle systems and to strengthen paretic movements. Articulatory coordination should be improved. It is important to replace faulty habits of phonation and articulation by as physiologic patterns as may be obtained in each case.

The prognosis depends on the onset, type and cause of the underlying lesion, the age, health and cooperation of the patient, and the time devoted to him. Under favorable circumstances it is always possible to achieve remarkable improvement.

DYSPHASIAS

There is little difficulty in recognizing three principal forms: (1) Broca's motor or expressive dysphasia due to lesions of the third frontal convolution; (2) Wernicke's sensory or receptive dysphasia as a result of destructions in the posterior third of the upper temporal convolution; (3) amnestic dysphasia or anomia which may be the first sign of an otogenic abscess in the temporal lobe. Special reference is due to the symptom of stuttering which often accompanies or follows dysphasic lesions. This type of aphasic stuttering demonstrates that articulatory repetitions and hesitations are not always of psychogenic orgin, but may be related to organic brain damage.

Although dysphasia represents a severe cerebral lesion, considerable rehabilitation of such patients is possible. Expressive disturbances require the re-education in articulation, verbalization and sentence construction, best achieved by visual demonstration and kinesthetic guidance of the articulatory movements. When receptive disorders predominate, the emphasis lies in auditory training of sound and word discrimination.

The prognosis depends on the amount of brain damage, the underlying disease and the patient's age and cooperation. Children and young patients recover more quickly and completely than do old people. A single traumatic brain injury has a better prognosis than recurrent vascular accidents. The patient's desire for improvement is most important, since a sluggish, depressed or careless attitude retards progress.

DYSPHEMIA

Stuttering is a very frequent affliction. Although a great number of publications testify to the intensity

of research, we are still far from understanding the complicated pathology of stuttering speech.

1. According to the development theories, stutterers are not different from non-stutterers; stuttering is a reaction to special situations during the development of speech. 2. The neurosis theories regard stuttering as an expression of psycho-neurotic states with emotional maladjustment and abnormal behavior. 3. The dysphemia theories assume that stuttering is one symptom of a complex psycho-somatic disorder with neurophysiological and biochemical manifestations on a hereditary basis. Stuttering speech is regarded as one symptom of dysphemia, a complex personality disorder with various emotional and neuro-vegetative manifestations. Most frequently it begins in childhood as the developmental form. There is, however, also a traumatic form which appears suddenly after severe psycho-physical shock or exhaustion such as in combat. The hysterical form represents a conversion neurosis following an emotional shock.

The treatment of stuttering remains the most difficult problem of speech therapy. The number of methods invented and practiced, testify to the unsatisfactoriness of any. All authors agree that the management must primarily consist of a well planned and persistent readjustment of the stutterer's personality and of his attitude towards life. Further progress may be expected from a combination of medicinal and psycho-therapeutic treatment of the unbalanced neuro-vegetative system.

It can never be predicted before treatment what progress is to be achieved. In general, it depends on the severity of the emotional maladjustment and any constitutional deficiency. Girls overcome stuttering more easily, so there are few adult female stutterers. In adolescence the preponderance in males is in the ratio of 5:1.

TACHYPHEMIA

The immediate cause of barylalia or tachyphemia lies in rapid, uncontrolled and careless enunciation. Long and complicated words sound especially mutilated. Contrary to stutterers, the clutterers are hardly ever concerned about their disorderly speech until they are urged to seek help. During the psychological examination the patient's basic difficulties come to light. This harmless disorder is easily recognized, and should not be confused with the dysarthrias of general paresis, disseminated sclerosis or Parkinsonism.

The treatment consists of a training in more controlled and careful enunciation. Although the principles of elocution serve this purpose, a course in public speaking would be insufficient. What these patients primarily need is the reorientation of their hasty personality and a more considerate form of oral and graphic expression.

HABITUAL DYSPHONIAS

Faulty speaking habits are the primary cause of many vocal disturbances. It is practical to distinguish a hyperkinetic and a hypokinetic form of habitual dysphonia. Typical findings are the bilateral vocal cord nodes of children who habitually abuse their voices. Single or bilateral singers' nodes develop under poor technique or vocal strain. An extreme form is dysphonia ventricularis of certain persons whose aggressive temperament drives them to phonate with the overcontracted false cords (ventricular folds). Because vocal abuse leads to laryngitic changes, these functional disturbances are easily confused with chronic laryngitis.

Phonasthenia is marked by pro-

gressive vocal fatigue. Three main types have been differentiated: fatigue of the speaking voice in teachers and public speakers, fatigue of the commanding voice in soldiers or foreman, and fatigue of the singing voice. When the habitual misuse of the professional voice jeopardizes one's job, the vocal disorder is aggravated by reactions of frustration and apprehension. Early recognition is imperative for rehabilitation so that financial losses may be avoided both by patients and employers.

The therapy of choice consists in vocal re-education. The patient is taught to phonate clearly with complete relaxation of the respiratory and phonatory muscles. With systematic exercises he then practices this newly developed voice for all purposes of speaking or singing. A simple means of controlling the excessive pressure of phonatory expiration is the observation of the superficial neck veins. Especially in women they often swell during phonation as a sign of excessive intrathoracic pressure. Large nodes and all polyps require surgical removal for two reasons: they do not disappear under vocal rehabilitation, and they may be malignant. Since habitual dysphonia is often a sign of high emotionalism, voice therapy should always be supplemented by psychotherapeutic guidance.

The prognosis is good as long as the patient comprehends the importance of abstinence from vocal abuse and is willing to learn the physiologic use of his voice.

PARALYTIC DYSPHONIAS

While the laryngoscopic signs of paralysis of the inferior (recurrent) largyngeal nerve are generally known, it is good to remember its diagnostic significance. Depending on the association with palatal, pharyngeal, or esophageal paralysis one can distinguish three types of lesions of the vagus nerve: 1) interruption above the ganglion nodosum; 2) interruption above the separation of the superior laryngeal nerve, and 3) interruption above the separation of the inferior laryngeal nerve. In addition, the vocal symptoms depend upon the onset of the paralysis. Whereas a gradual onset leads to slowly progressive deterioration of the various vocal qualities, the sudden onset is marked by an initial loss of the voice (aphonia) which is followed by its slow improvement. Detailed studies of the single voice qualities always show agreement with the individual laryngoscopic findings and the accompanying psychogenic reactions. A paralysis of the superior laryngeal nerve is less easily recognized. Since this nerve supplies the external cricothyroid muscle, it should not be difficult to recognize its paralysis by observing this muscle's functioning. Several methods present themselves for that purpose.

It is of vital importance to ascertain the underlying disease which causes the laryngeal paralysis. Guided by the history, one should examine for pulmonary, cardiac, esophageal, cervical, neurologic and vascular lesions. Improvement of the voice should not be considered before a general disease condition is sufficiently improved.

If the paralysis is due to an arrested or temporary condition (poliomyelitis, encephalitis, thyroidectomy, etc.), vocal rehabilitation should be resorted to without delay. The main principle of voice therapy consists in the improvement of vocal cord closure. If the paralyzed cord cannot be expected to move again, the healthy cord has to be stimulated to increased action. This may be accomplished by manual pressure on the outside of the larynx, by electrotherapy, or by certain positions of the head which tend to improve closure of the glottis. As soon as the patient has learned to produce a

clear tone, this new voice is practiced with vowels, on higher and lower tones, in words and sentences, by counting, reading, and finally in conversation.

The prognosis depends on cause, onset, type and course of the paralysis; position of the paralyzed cord; age, general health and cooperation of the patient; and the time devoted to voice therapy. The post-operative cases often show a spontaneous remission of the paralysis and thus of the hoarseness. While it is more difficult to improve the voice in cases of permanent paralysis, one can almost always offer considerable help. Quite frequently the voice even becomes practically normal.

DEVELOPMENTAL DYSPHONIAS

At the onset of puberty the change of the childhood voice to that of adulthood is initiated. Because of the interaction of several endocrine glands the change of voice can be disturbed in various ways leading to developmental dysphonias. In past centuries, the castration voice of the eunuch was purposely induced by the excision of the testicles before puberty. Severe male hypogenitalism produces the similar eunuchoid voice. The group of incomplete mutation comprises the cases of delayed onset, prolongated duration, and insufficient result of male vocal maturation. They are connected with endocrine or constitutional deficiencies of a slighter degree. Premature mutation is a symptom of precocious sexual development: hyperestrinism due to granulosa-cell tumor of the ovary; cerebral prematurity in lesions below the third ventricle; or virilism as a result of tumors of the adrenal cortex and the pineal gland. When a masculinizing influence affects females, perverse mutation lowers the voice to the male range as in ovarian arrhenoblastoma or hermaphroditism.

Some perfectly healthy boys, after puberty are emotionally unable to adjust to the low male voice, overcontract the cricothyroid muscle and speak with habitual falsetto voice. This easily correctable condition should not be confounded with the psychogenic falsetto voice, nor with the paralytical falsetto voice.

The habitual falsetto voice is most frequent and is most easily corrected. Frontal pressure on the thyroid cartilage relieves the overcontraction of the cricothyroid muscle so as to produce a normal low voice, which the patient now learns to maintain until he can use it without relapse into the old habit. In case a hormone deficiency is the cause, the treatment is guided by the etiologic factors and the symptomatology in each case.

POST-OPERATIVE DYSPHONIAS

Whenever a part of the mechanism of voice production has had to be removed or been damaged by laryngeal surgery, phonation is disturbed. The removal of one vocal cord is followed by the growth of a scar band which resembles a vocal cord. However, its consistence prevents its regular and harmonic vibration so that the voice is very hoarse. After some time the healthy cord compensates for this loss of function by increased adduction, tension and amplitude and by using the contralateral scar tissue as a line of support. After hemilaryngectomy the post-operative defect is more extensive and there is more physiologic disturbance. Yet, the same principle of cicatricial repair tends to reestablish the function of a vibrating glottis. Complete laryngectomy at first abolishes the faculty of audible speech. Again, nature has shown the way towards compensation; belching a column of air from the esophagus produces vibrations of the muscular sphincter at the esophageal entrance. This esopha-

geal pseudo-phonation substitutes a very low and rough voice, which, however, can be improved to a remarkable degree.

Voice therapy is indicated whenever parts of the larynx have been removed. Individualized vocal exercises help the patient to improve all qualities of phonation. With intensive work a fairly good voice can be re-educated in many cases.

Following laryngectomy the procedure of choice is the education of esophageal speech — best accomplished by group therapy which offers mutual encouragement. The 30% unable to acquire this compensation may resort to the use of the artificial larynx, which is available in two types. A cheap pneumatic type contains a reed whistle which is held against the tracheostoma and conducts the sounding air into the mouth. The more expensive electric type consists of a battery-driven buzzer which is held against the skin of the neck and causes the air within the oral cavities to vibrate. Both types create a monotonous and unpleasant voice, because of which the artificial larynx should not be prescribed except as a last resort.

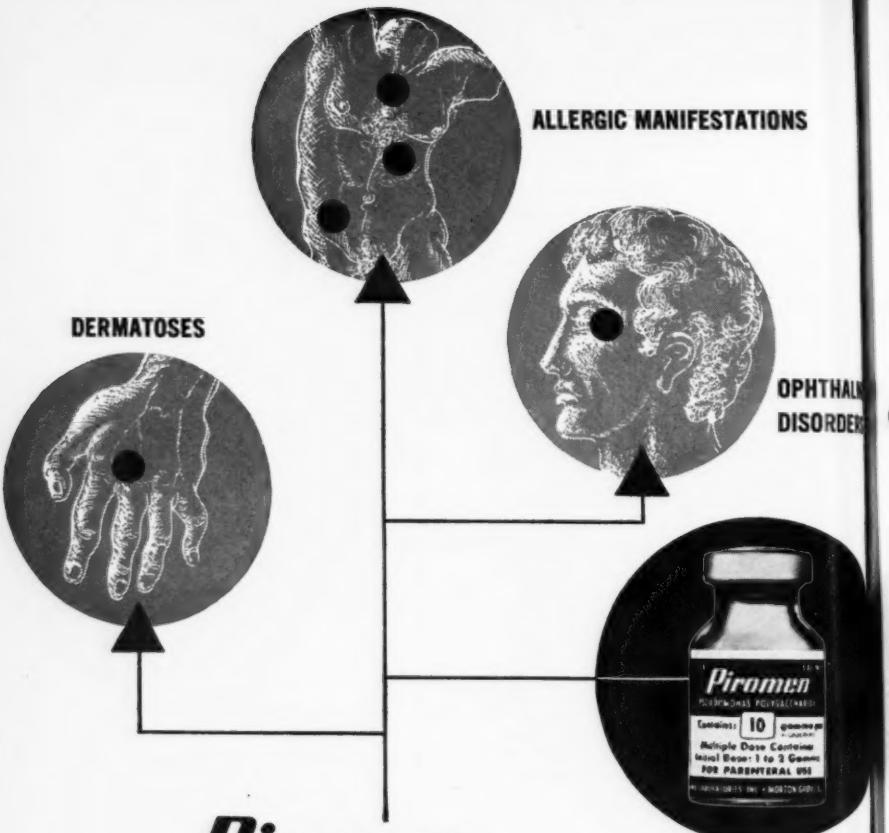
PSYCHOGENIC DYSPHONIAS

Psychogenic dysphonias are rare in peaceful periods. Again, two main forms may be distinguished. The hypokinetic form is characterized by incomplete movements of phonation; it favors women and usually results in complete aphonia. Hysterical aphonia is a typical example. In times of war, the hyperkinetic form with excessive phonatory closure of the glottis is more frequent amongst soldiers. It appears as psychogenic falsetto, false-cord, or inspiratory voice, as breathy high voice, or as extreme subtonal voice. Laryngological examination demonstrates no change other than the disturbance of voluntary vocal cord motility. As always we find normal laryngeal reflexes (coughing, gagging, etc.).

A different disorder of psychogenic origin is spastic dysphonia, which disturbs the voice in the same way as stuttering interferes with speech. Its slowly developing professional form affects persons who have to talk very much. Under the continuing strain of emotional burdens the voice may unconsciously be chosen for the expression of frustrating inhibitions. A traumatic form appears more suddenly after shocking accidents. In other cases, unrelieved psychic tensions produce the emotional form without professional predilection. Multiple sclerosis or encephalitis may produce similalr syndromes. The professional form merits consideration as a genuine occupational disability and may necessitate change of profession.

These psychogenic disorders must be treated by psychiatric routines. Psychogenic hypokinetic aphonia of recent origin often responds well to any of the many endolaryngeal pseudo-manipulations — probing, mild faradization, etc. These purely suggestive methods elicit some reflectory phonation which is then used for the complete restoration of the voice. Once the symptom of aphonia is removed, the patient needs psychotherapeutic help for the solution of his emotional problems. Many observations during the last world war have demonstrated the value of narcosynthesis for the cure of these conditions.

Long experience has shown that spastic dysphonia cannot be improved by the suggestive exploitation of reflectory phonation. These patients need a careful analysis of their basic difficulty, followed by intensive rehabilitation of their personality disorder. This resembles again the treatment of stutterers as does the prognosis which should not be pronounced before therapy has made some progress.



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Clinical Significance of Endometriosis

Endometriosis is now recognized as one of the most frequent causes of pelvic disease in women.

EUGENE S. GROSECLOSE, M.D., F.A.C.S., *Lynchburg, Virginia*

The publication of the first of Sampson's articles on Endometriosis in 1921 intensified the investigation of this disease, and his classical description of endometriosis as "the presence of ectopic tissue which possesses the histologic structure and function of the uterine muscosa" is generally accepted.

Endometriosis may be of two types: (1) the internal or direct, in which the ectopic mucosa situated within the uterine or the tubal wall is continuous with the mucosa lining these organs; (2) the external or indirect endometriosis in which the ectopic mucosa has the same histologic structure as that of the internal type, but is not continuous with usually situated Mullerian mucosa. Internal endometriosis refers to adenomyosis of the uterus or the presence of endometrial glands within the muscular wall of the uterus, and connected with the endometrium.

PATHOLOGY

The pathology of endometriosis represents the result of the growth and activity of endometrial glands which have the same histologic structure and function of the glands of the uterine mucosa. The physiologic response of these misplaced glands to ovarian hormone stimulation causes cyclic bleeding and the blood, having no avenue of escape, accumulates as pelvic hematomata of varying size. Not only do adhesions form from the cyclic bleeding and healing process, but active in-

vasion of the endometrial process into the walls of the involved organs occurs.

The associated pelvic pathology in order of frequency are: uterine myomas, uterine retrodisplacement, endometrial hyperplasia, simple follicle cysts of the ovary, postoperative adhesions, luteum cysts of the ovary, and chronic salpingitis.

Endometriosis is a disease of women of child-bearing age. Although occurring more frequently in women over 30 years of age, it is reported with increasing frequency in younger women. Greenblatt states that this condition is one of the most common pelvic lesions found at operation in women during active menstrual life. The true incidence of endometriosis is difficult to determine, but certainly it is increasing in frequency in private practice, is uncommon in charity practice, and is almost unknown in the colored races. Tyrone found that the incidence was 5% on the gynecological service at Charity Hospital, (New Orleans) as compared to 17% at the Ochsner Clinic the same year. Failure of conception during the younger married years because of economic reasons, maladjustment, increased tension of modern living, all of which lead to unsatisfactory sex life in many patients, have all been mentioned as contributing factors in delaying pregnancy, and therefore contributing to the development of endometriosis. Meigs found endometriosis in 32.2%, Sampson in 21.8%, and Holmes in 26.0% of all abdominal gynecologic operations. On the basis of these figures, one may expect to find it in 1 out of every 4-5 patients operated upon for some pelvic disease. Not all its symptoms are pelvic. The presenting symptoms may be upper abdominal, psychiatric, dermatologic, obstetric, urologic or proctologic. The general practitioner is likely to encounter this disease as one of the most frequent causes of pelvic pain, dysmenorrhea, and/or sterility.

SYMPTOMS

In most cases the symptoms are chronic and are manifested by a month-by-month cumulative increase in some menstrual-linked phenomenon, usually and most frequently, *pelvic pain.* The cardinal symptoms are dysmenorrhea, dyspareunia, relative sterility and menstrual defecation pain; the pathognomonic sign is the hard, fixed nodule felt by recto-vaginal palpation of the utero-sacral ligaments or peritoneum of the posterior vaginal vault. When a definite nodule or cluster of nodules is palpated in the utero-sacral ligaments, with tenderness and induration, there is little doubt that pelvic endometriosis exists. Most authors agree that dysmenorrhea alone is of no great significance; there must be positive palpatory findings. Too many make the presumptive diagnosis of endometriosis in many cases of severe dysmenorrhea, apparently overlooking the great frequency of uncomplicated primary dysmenorrhea.

Other symptoms frequently presented by these patients are menorrhagia, metrorrhagia, pelvic pressure, pain in thighs or inguinal regions, sacral pain, gastrointestinal symptoms, renal pain, upper abdominal reflex pain, constipation, headache, nervousness, bladder symptoms, fever and leukocytosis.

STERILITY

The association of endometriosis and sterility has been emphasized by many observers, the incidence varying between 20 and 60%. The general observation that ward and clinic patients rarely have endometriosis is based upon the fact that this

group of patients are the ones that marry early and have children.

DIAGNOSIS:

A careful history and thorough combined rectal and pelvic palpation, with inspection of the cervix and vagina are essential diagnostic procedures. Culdoscopy is of minor importance and indeed may be dangerous. The most frequently encountered lesions are the "chocolate cyst," the "blueberry" spot and endometriosis of the recto-vaginal septum and the utero-sacral ligaments. Less well known manifestations are thin plaques of an old-blood-like material densely adherent to the peritoneum —"brown spatter"—and the "red roughening" consisting of fiery red granules with fibrin-like fronds. Less frequently, small colorless peritoneal cysts, white areas of peritoneal sclerosis or the small chocolate cysts of about 1 mm. are encountered.

TREATMENT:

Most important is diagnosis in the early stages. Treatment will depend upon the age of the patient, social and marital status, the type and severity of the symptoms, the patient's desire for children, and the extent of the lesions relative to both the genital and associated pelvic organs. There has been no outstanding contribution to the treatment of endometriosis during recent years. Treatment may be classified as medical, hormonal, surgical, or radiological, or a combination of these. All are agreed that the treatment should be as conservative as possible, except in older patients with extensive pelvic involvement and severe disability. Endometriosis is not a life-endangering condition, nor does it tend toward malignancy, and conservative medical measures will often suffice to control the less severe cases. However, in young women, especially those without children, careful investigation into the possibilities, as well as the dangers, of conservative treatment—is in order. The treatment of endometriosis is simple when the indications are clear for arresting ovarian function, either by surgical castration or by X-ray or radium treatment. The most difficult decisions are in those patients who are anxious to retain the child-bearing and menstrual functions. A full discussion between the patient and the surgeon, of the problems involved and the possible surgery required, should be carried out in all cases.

The type of treatment used depends largely upon the choice of the physician and the status of the patient. A conservative surgical approach to this problem is now considered superior to other types of treatment. Excision of the pelvic lesions without castration results in improvement in many cases, although some have reported a high recurrence rate of symptoms following excision without castration. Even when the surgeon feels quite sure that some ectopic endometrium will be left in the pelvis, and that a second operation may become necessary, these patients will often agree to this approach, knowing that the possibility of future gestation is still maintained.

There are many reports of pregnancy following conservative surgery. One report is of a follow-up of 64 patients with endometriosis, in whom the child-bearing function was preserved at laparotomy. Of these patients, 26 had 3 pregnancies, 20 had one or more term pregnancies, and three had abortions.

Irradiation alone as the initial method of treatment, particularly in the younger age group, *should always be avoided.*

Some advocate the treatment of endometriosis by the use of stilbes-

trol in large doses, and over long periods of time. The rationale of this treatment is that stilbestrol produces its effect upon the endometriosis through pituitary inhibition. Prolonged and increased use of stilbestrol has been explained as having a suppressing effect on the anterior pituitary, thus inhibiting or diminishing ovarian activity and causing atrophy of the ovaries. This in turn reduces estrogenic stimulation to the normally-placed or ectopic endometriosis, with resulting amenorrhea. Small doses, even though continuously used do not produce this effect. The same phenomenon probably occurs during pregnancy. However, this method of treatment is not widely accepted, due to the necessity of prolonged treatment, and to the fact that this method of therapy is purely palliative and never curative.

There are recent reports of the use of testosterone by pellet implantation for alleviating the symptoms of endometriosis pre-operatively, and the control of residual or recurrent endometrial lesions following conservative surgery.

Satisfactory results have followed the use of androgrens. 150 to 225 mg. of testosterone proprionate in oil injected IM over a period of two to three weeks, followed by 10 mgm. of methyl testosterone daily by mouth for variable periods. Many have attested to the merits and safety of androgen therapy, either orally or hypodermically, but all are agreed that androgenic hormone therapy has only a temporary action, similar to the results following estrogenic hormone therapy.

SUMMARY AND CONCLUSIONS:

(1) Endometriosis is now recognized as one of the most frequent causes of pelvic disease in women of child-bearing age.
(2) The relationship of endometriosis to female sterility has been stressed.
(3) The histogenesis, pathology, incidence, diagnosis, symptomatology, and treatment have been briefly reviewed.
(4) Conservative surgical treatment, with preservation of the child-bearing function in young women and those without children, is advocated whenever possible.
(5) Hormonal therapy of endometriosis is only palliative and not curative.

Pruritus Vulvae

An attempt should be made to relieve the minds of these individuals, to help in straightening out the familial problems, to aim at achieving peace and happiness. Sweet suggests an antipruritic ointment: 5% crude coal tar, 5% zinc oxide, 45% starch, and 45% soft paraffin to be applied each night.

Half the cases of pruritus vulvae are attributable to specific causative factors such as Trichomonas vaginitis, monilia, cervicitis. Most such cases may be relieved satisfactorily by direct attack on the causative organism or pathologic entity. Half of pruritus patients have an underlying psychogenic feature.

The treatment of this latter group is directed at: (a) relieving the minds of the individuals, (b) efforts to cause cessation of scratching, (c) local soothing ointments and (d) sedation.

W.H. Vogt, Jr., *Missouri Med.* 51:187, 1954.

The Covered Patch Test in Diagnosing Contact Dermatoses

Patch Tests should be made only in case of eruptions due to suspected cutaneous sensitizers

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It has long been recognized that one of the most effective means of determining the cause of contact dermatitis lies in the covered patch test.

In considering the use of the patch test as a diagnostic aid, it is important to recognize that it should never be used in the great majority of cases of suspected occupational dermatitis, inasmuch as they are so largely caused by *primary irritants*. In a study of 2,000 occupational cases I find that 70% were due to such primary irritants. It follows that in only 30% of one's cases are patch tests apt to be indicated.

A primary irritant causes dermatitis by acting directly on the normal skin at the site of contact. Such agents include gasoline, kerosene, and strong solutions of acids, bases and solvents.

It is only in the case of eruptions due to suspected *cutaneous sensitizers*, then, that patch tests should be made. These are agents (cosmetics, penicillin, dyes, nail polish, etc.) which do not necessarily cause demonstrable changes on first contact but may effect such changes of the skin, that after a latent period of several days, further contact on the same or other parts of the body will cause dermatitis.

Some 90% of all physicians handle industrial cases, and, since the great majority of these are skin diseases, practically all physicians are regularly treating industrial skin disease

cases. When a patient comes with a rash suggestive of contact dermatitis, and which the patient himself believes to be related to his daily work or his home environment, likely the use of the patch test will be considered. Every doctor sees cases caused by nail polish, hair waves, skin creams, garment material, leather, elastics, etc. In such cases, the history taken, the progress of the rash under therapy not proving satisfactory, that the physician may turn to the patch test for assistance.

(1) Care must be taken not to patch test a patient who has a *generalized skin condition,* or who has an obvious case of, say, lichen planus or lupus erythematosus.

(2) Consideration must be given as to the nature of the patient's skin, for on an eczematized or very sensitive, even the innocuous substance may have an irritant effect.

(3) Should neither the doctor nor the patient himself be aware of the nature of the suspect substance, prudence requires that patch-testing be withheld until its make-up is ascertained.

(4) Many closely allied chemicals should not be applied at the same time, for, should the patient have been sensitized to any singular one, they all may cause adverse reactions.

If there is any doubt as to whether the condition of the patient's skin is such that a patch test might cause further trouble, it is best first to place only a few drops or granules on the skin, and carefully observe what happens, over an hour or so.

Many patch tests are done unnecessarily. A woman sent "for patch testing" was a worker in a woodwork shop. She had an eruption, stayed out of work, was cleared, and returned to duty. Within four hours after resuming work, she broke out again. She was sent for an opinion; the diagnosis of the plant physician, that it was a dermatitis due to the wood at the shop affirmed. The insurance carrier demanded proof, accordingly, patch testing with a piece of wood was done, and the patient told to remove it if it irritated her. She was to return in 24 hours for the reading. She returned a week later, wood still on her arm, and, a large ulcer at the site. The insurance company accepted the case, but a year later the woman was seen with a lesion on her arm at the site of the test, which proved on biopsy to be a basal-cell epithelioma. *It is only in the doubtful cases that patch tests should be applied.*

THE CLOSED PATCH TEST IN ITS CORRECT USAGE:

Once a physician decides that a patch test will prove of advantage to him in making a correct diagnosis, in the great majority of cases he will choose the covered patch test, and this article will confine itself to a consideration of that type.

(a) *General Description of its Application*:

The suspected external sensitizer, *properly diluted,* is applied to the unbroken skin, and, after being covered with a piece of linen and a larger piece of cellophane, is then secured by a still larger square of adhesive. An alternate method is to have a piece of linen, soaked in a solution of the substance (again, properly diluted), similarly applied. The purpose in adding the cellophane is that contact of the skin with the adhesive may be separated from the site of the tested substance. If this is not done, reaction from the adhesive may run into the area of the tested substance and give rise to the reading of a false positive re-

action. Should the patient be highly sensitive to adhesive, or if a solid object such as a hairpin is to be tested, the test object or substance should be covered with a moisture-proof material and held to the skin by cotton bandages. The patient should be told to remove the patch at any time should he feel any itching or burning.

The patch is left in place for 24 to 48 hours, then removed, and, *after a 15- or 30-minute interval,* the reaction of the skin is noted. The reaction is graded Zero to Five:

0: No reaction

1: Redness

2: Redness, swelling and papules

3: Intense redness, swelling, papules and vesicles

4: Large, confluent blisters; and

5: Desquamation, oozing and even necrosis.

On initial removal of the patch, one must distinguish the transient edema and mild erythema of dermatographia from the real erythema of sensitization. The transient edema and erythema disappear ordinarily within 30 minutes, and leave a perfectly normal skin. A mild, true erythema persists for a longer period.

(b) *Specific Technics for Different Types of Test Materials*:

The inner surface of the upper arm (or the flexor surface of the forearm) is usually the preferred site. The arm site is of easy access, and removal by the patient in case of any itching or burning at the test site.

If the suspected entity is a *liquid or an ointment,* a portion of 4-ply gauze or flannel ¾ inch square is saturated with it, the excess pressed out, and the moistened patch applied and covered with a 1½ inch square of non-coated cellophane. A 3-inch square of adhesive plaster is then used to seal the test material and the cellophane to the skin.

If the suspected agent is a *solid which is insoluble in water,* it first must be dissolved in the appropriate solvent. The absorbent fabric is then soaked in the solution and is allowed to dry before being placed on the skin and covered over.

If the test material is a *powder,* or consists of *small crystals,* it may be placed on the absorbent fabric after first moistening the fabric to make the material more adherent when placed upon the skin.

INTERPRETATION OF THE PATCH TEST:

(a) *Positive Reactions*:

If the reaction is positive, the physician immediately grades the reaction and is guided accordingly in his handling of the patient.

(b) *Delayed Positive Reactions: Use of the Wood's Filter*:

When a patch is removed after 24 to 48 hours, it may appear to be negative; however, if it is read under illumination with a Wood's light, many positive reactions be discovered that otherwise would have been missed. Several such positive reactions under the Wood's Light have developed into the *"delayed reaction patch test."* Up until 1953, it was generally reported that the patch test might become positive two, three, four or even more days after the patch had been removed; but, the Wood's light will disclose many of these on the day of removal of the patch.

In testing with oils, leathers, waxes or other materials capable of fluorescence, not infrequently, when the patch test is removed one will find under the Wood's light some of

the test material still on the patient's skin, and that it cannot be removed by alcohol or ether.

(c) *False Positive Reactions*:

These may occur when the preliminary cautions are disregarded;—more specifically

(1) If primary irritants are used for patch testing;

(2) If the patient has a generalized dermatitis and is sensitive to many materials;

(3) When the patient has been sensitized by a previous exposure to a substance, and is patch-tested to it, notwithstanding that he had not been in contact with that material for some months; or at the time of developing his present eruption; and

(4) When the patient's reaction has been to the adhesive itself rather than to the suspect substance: This is far less apt to occur when the cellophane is added, as above.

(d) *Negative Reactions*:

When a patch test is truly negative, it indicates an absence of irritation, primary or secondary, from the patch-tested material.

(e) *False Negative Reactions*:

In the face of a false negative reaction, it may be assumed that the subject was not sensitive to the test substance at the time of the test because

(1) The patch test may not have been performed with the actual offending agent;

(2) The test materiat may nol have equalled the offending substance in strength or quantity;

(3) Adjuvant physical or mechanical factors may be necessary to produce dermatitis; and

(4) The patient may have developed hyposensitivity since contracting the original dermatitis.

However, although false negative reactions may occur, as refinements in technics are perfected they are becoming less and less common.

Properly applied, correctly read and interpreted, the patch test is a valuable diagnostic aid in many cases of contact dermatitis, especially when the tester has taken a careful history, has made a thorough examination, and is fully cognizant of the shortcomings of the patch test. As each person now comes into contact with many more chemicals than he did five years ago, and as this tendency will increase as industry develops new materials, one must try to keep abreast of these developments as they occur and are reported, for only then will one know when to patch test and when to avoid its use.

SUMMARY:

(1) Patch tests have proven of aid in finding the causes of contact dermatitis in many cases, both in substances handled at work and at home.

(2) The specific technics and dilutions to be used in performing patch tests will vary in accordance with the substance in question.

(3) Irritant substances should not be used for patch-testing.

(4) All materials used for patch-testing must be properly diluted.

(5) The eczematized skin has a lower threshold of irritability than does the normal skin.

(6) Future use of patch tests will provide new technics and lead to further advances.

(7) Absolute reliance on the result of the patch test in all cases of externally-caused dermatitis is not justifiable.

Anesthesia in General Medical Practice

Regional nerve blocks are useful for both surgical anesthesia and pain therapy

H. R. GRIFFITH, M.D., *Associate Professor of Anesthesiology, McGill University, Montreal*

There is no secret skill or mystery in connection with the use of laryngoscopes and endotracheal tubes. My own favorite laryngoscope for routine use is the one designed by Professor Macintosh of Oxford (available from Foregger Company); and I like to use either a Portex Magill tube, with a malleable copper wire as a stilette for use in difficult intubations. The only way to learn intubation is to intubate. Every GP should be able to use a laryngoscope. Apart althogether from the value of endotracheal intubation in anesthesia, it is a useful procedure in maintaining an unobstructed airway in patients who are unconscious for any reason. Cases are on record where unconscious patients have breathed through endotracheal tubes for as long as 6 weeks and subsequently recovered without permanent damage.

Evipal, Pentothal, Surital and other IV anesthetics are so pleasant for the patient that they have done much to remove the fear of anesthesia. Yet a word of caution about their abuse is needed. They are deceptively easy to administer, but not always easy to control. Pentothal is a good hypnotic, but a poor analgesic. It should be used only for induction of anesthesia which is to be prolonged with inhalation agents, or for use by itself only in very short operations. It should never be given stronger than 2½%, and it should not be used in the presence

of respiratory obstruction, in cases of shock, hemorrhage, marked obesity, or in the very old.

The most controllable of all anesthetic agents are the gases — nitrous oxide, ethylene, and cyclopropane. This is because they are almost completely excreted by the lungs and are rapidly eliminated. Preference is expressed for general use the gas cyclopropane, which permits an excess of O_2 at all times and is a potent, non-irritating, controllable anesthetic agent. One can kill patients with cyclopropane, but it is one of the safest of agents when properly used. Cyclopropane is the choice for poorest-risk patients, including those with serious heart disease. Ethylene has a wonderful record from the point of view of absence of pathologic effect. There has been a tendency in recent years to forget this fine agent; it should be re-evaluated, especially as to its possible use in heart surgery.

MUSCLE-RELAXING DRUGS

The addition of curare and other muscle-relaxing drugs has greatly widened the practical application of the anesthetic gases. In our 11-years experience with curare its use has eliminated the need for toxic deep anesthesia. The new muscle relaxant drug, succinylcholine (Anectine) will probably largely supplant d-tubocurarine, because of its short action and its controllability.

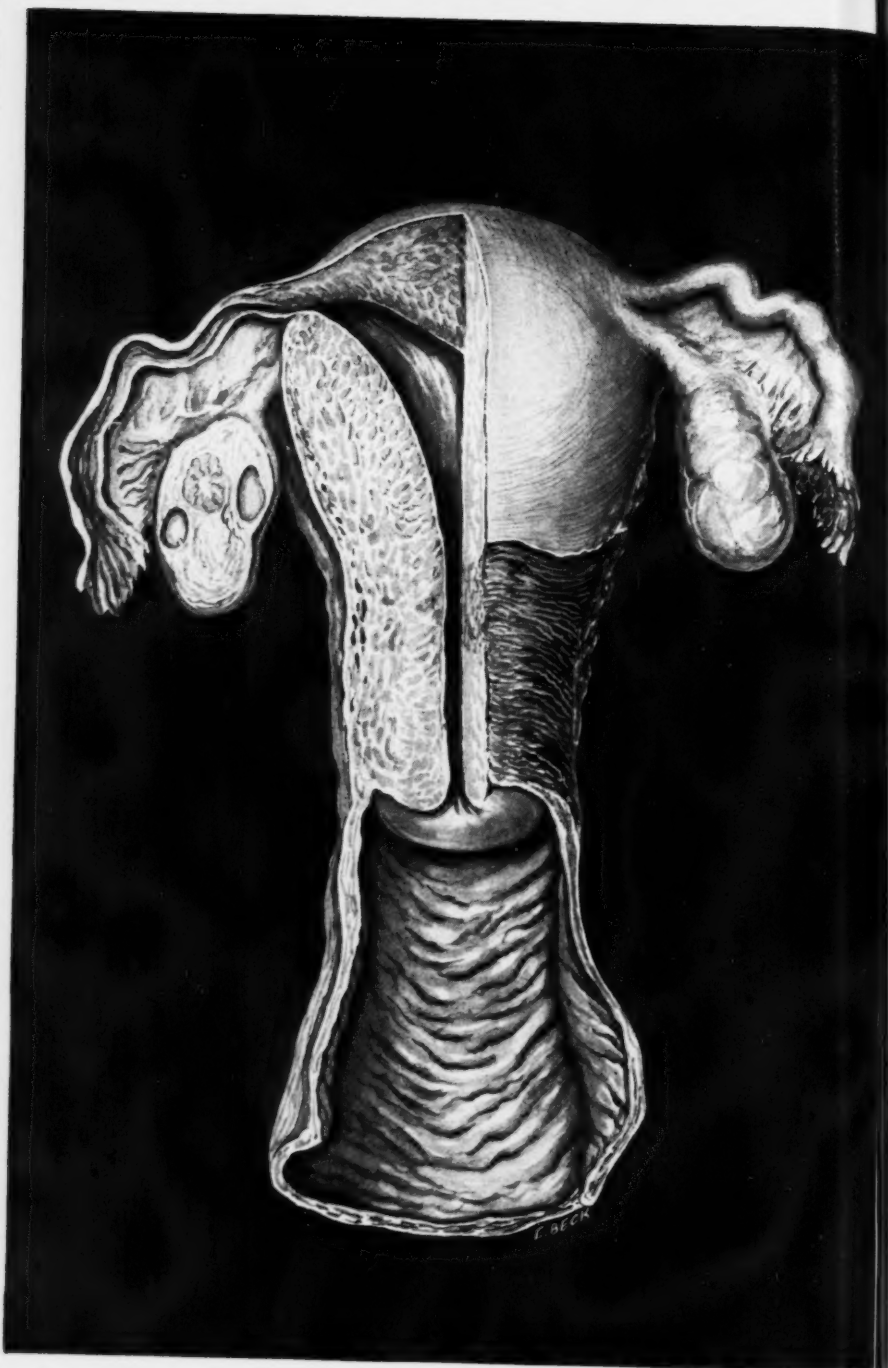
We have learned to use safe spinal anesthetic dosages and techniques; 65% of our vaginal deliveries, and almost all of our Cesarean sections, hysterectomies, and minor rectal operations are done under spinal anesthesia. We use minimum doses of dilute solutions (6 to 10 mg. of 0.1% Pontocaine, or 50 to 60 mg. of 1% procaine) and keep our patients well sedated, but also well oxygenated and well hydrated. Many women come to the delivery table very badly prepared for general anesthesia, and hundreds have died from aspiration into the lungs of undigested food. Others have died from overdoses of chloroform or ether, and even caudal or paravertebral anesthesia is not entirely without danger. The type of spinal anesthesia we use provides a simple technique quickly performed, with no possible danger to the baby; and the dose used is so small that, even if it all went to the brain, the result could hardly be fatal.

Now a word in recommendation of the drug, trichlorethylene (Trilene), an excellent analgesic when it is administered in small amounts, either with air in a special inhaler, or in combination with nitrous oxide and O, especially valuable in obstetrics and dentistry.

Regional nerve blocks have a wide field of usefulness for both surgical anesthesia and pain therapy, particularly when in the hands of experts. Untoward reactions from local anesthetics, leading even to death, are not unknown. Death under such circumstances is usually preceded by convulsions.

ASPHYXIA

Since convulsions produce asphyxia, which may be the immediate cause of death, I believe the first step in the treatment of severe reaction to local anesthesia should be the maintenance of adequate oxygenation, preferably by endotracheal controlled respiration; also give IV relaxing medication, as Pentothal or succinylcholine. These measures are much more effective than any of the ordinary cardiac or respiratory stimulants given by hypodermic. Dangerous accidents with local anesthetics can usually be avoided by sticking to conservative doses of such tried and trusty drugs as procaine for field or regional block, and cocaine for topical application. In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In clinical evaluation, covering a period of two and one-half years, Vallestril was found* to be "an effective synthetic estrogen . . . singularly free from toxic effects and complications, especially uterine bleeding. . . . The beneficial effect of the medication appeared within three or four days in most menopausal patients. . . . failure to encounter withdrawal bleeding in any patient was most gratifying. . . ."

Such unwanted reactions as nausea, mastalgia and edema also occur less frequently with Vallestril.

Vallestril is preferentially indicated whenever estrogens are of value: The menopausal syndrome and the pain of postmenopausal osteoporosis and osseous metastases of prostatic cancer.

Dosage: Menopause—3 mg. (1 tablet) two or three times daily for two or three weeks, followed by 3 or 6 mg. daily for one month. Supplied only in scored tablets of 3 mg. G. D. Searle & Co., Research in the Service of Medicine.

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*Sturnick, M. I., and Gargill, S. L.: New England J. Med. *247*:829 (Nov. 27) 1952.

using caudal, epidural, or paravertebral block, the anesthesiologist should always be conscious of the possibility of penetrating the subarachnoid space. Fatal accidents have resulted because the dose injected is very much larger than one ever used in spinal anesthesia.

Static sparks are responsible for most of the serious operating room explosions. Everyone who gives anesthetics should become familiar with the principles of humidity control, conductive materials, and electrical intercoupling which are now recognized as minimizing the dangers of static sparks. Merely attending to such things as electric switches, cauteries, open flames and ground wires may lead to a false sense of security.

Good anesthesia should be available to patients in small hospitals as well as in the large teaching institutions. This can be accomplished if the doctors in a community will designate one of their number to look after anesthesia and make it financially worth while for him to devote at least part of his time to this specialty.

N.C. Med. Jl. 15:63, 1954.

Metastasis of Malignant Melanoma From Leg to Orbit

A large mass developed in the right gastrocnemius of a 38-year-old man. Surgical exploration in January, 1950, disclosed that the mass was a lymph node, and the diagnosis of metastatic malignant melanoma was established by micrope. A primary lesion of the leg could not be found by careful clinical re-examination, though there were several plantar calluses under which a lesion could have been located. The leg swelled greatly and palliative treatment was given.

In October, 1950, another general surgeon, unaware of the malignant nature of the condition, treated the leg with firm bandages for 4 months and then, in January, 1951, to relieve the severe pain of the right calf and leg, resected completely the r. saphenous vein and its tributaries. The pain ceased in the leg, but 7 days after the operation the r. eye developed burning and itching and vision of this eye became blurred. Proptosis of r. eye began a week later and progressed slowly. A general examination at this time disclosed as the only positive points several 1-2 cm. firm masses just beneath the skin of each flank. The r. leg was still swollen and tender in various areas, but it finally healed.

Our first examination, March 15, 1951—Extreme pain in r. orbital region, marked proptosis, conjunctive chemotic and edematous, r. pupil dilated but reacted to light and accommodation. The media were clear, and there was a slight brownish pigmentation of the macula. Position of r. eye fixed; l. eye normal.

On March 16th, a Kroenlein resection of the r. lateral orbital wall; a large amount of liquid and semiliquid greenish, greyish and black material, a number of small and large rubbery, black fragments were removed. Removal of all melanomatous particles could not be accomplished without destruction of the optic nerve and extraocular muscles.

The severe orbital pain immediately subsided. The tissue diagnosis was confirmed by the Armed Forces Institute of Pathology. Death occured May 24, 1951.

Alston Callahan, *Sou. Med. Jl.* 47:437, 1954.

Management of Common Eye Conditions

Retrolental fibroplasia is now the chief cause of blindness in infants

J. H. JUDD, M.D., *Omaha, Nebraska*

This discussion of present day concepts is so that the G.P. and the ophthalmologist can tell the patient essentially the same story, which will increase the patient's confidence and save the doctors much embarrassment.

A child does not "out-grow" a squint. The eyes may straighten spontaneously later, but only after the vision of one eye has become so defective from suppression that it can not be restored. It is normal for the eyes of infants to wander and often to cross for the first 6 months. After that age, the child needs prompt attention as soon as strabismus is discovered.

There are two kinds of squint, the paralytic, in which there is a limitation in the rotation of the eye, and in which the amount of deviation varies with the direction of gaze; and the non-paralytic, in which the angle of squint is always the same in all directions of gaze.

It is with the non-paralytic group that we are chiefly concerned. A portion of these are due to excessive convergence innervation resulting from excessive accommodation in a far-sighted child. These usually appear at 2 to 4 years of age. The deviation is usually of small degree, increases when looking at close objects or when the child is tired, and tends to disappear when correcting glasses are worn. The physician's responsibility is to see that there is no delay in starting the treatment. Cases not benefitted by this type of treatment, certainly by the time they

are 3 years of age, should be corrected surgically.

The other group of squints appear at birth or shortly thereafter. The squint is generally over 15°, is equal for near and far, and is not affected by wearing glasses. Nearly all of these cases require surgery and this should be done early. It is wrong to permit the parents to think that glasses will be beneficial in this type case.

Too often we see patients who have been told that they have a cataract, and that when they cannot see to get about they should have an operation,—who, in fact, have chronic glaucoma. In cases of chronic glaucoma our chief duty is to tell the patient he has a chronic disease which cannot be cured, but can be controlled in the majority of cases, and that will need to be under observation for the rest of his life. A small group of cases have a narrow anterior chamber angle; these are best treated by surgery.

CATARACT TREATMENT

The treatment of cataract is surgical extraction. The treatment of the patient with a cataract is much more. Look for systemic toxic conditions, diabetes, anemia, dietary deficiencies, and focal infections and treat any of these found.

It is our duty to warn our patients as to the possibility of developing cataracts from exposure to radiation, particularly infra-red and x-ray; and from certain poisons or drugs, such as dinitrophenol or a common insecticide, paradichlorobenzine. In incipient senile cataract the use of drops, such as dionin, is very valuable in the control of the patient, permits a periodic examination of the eyes so that other conditions, especially glaucoma, can be detected early. A cataract should be removed whenever the patient is unable to do the things that he needs to do, or is unable to carry on his normal activities. It is no longer necessary to wait until the cataract becomes "ripe."

The most common cause of the *complete* loss of vision in one eye is occlusion of the central retinal artery. If seen very early, an attempt should be made to restore the circulation by dilating the retinal artery by inhalations of amyl nitrite and by intravenous injections of sodium nitrite.

Incomplete sudden loss of vision of an eye may be caused by several conditions. As diagnosis depends upon the ophthalmoscopic examination, this should be done without delay, because early treatment is imperative in most of these conditions.

Intraocular hemorrhage may be the patient's first intimation that he has hypertension; warn against coughing, straining, stooping, and lifting.

Tearing may be the chief symptom of a virus infection of the newborn, called inclusion blennorrhea, appears 5 to 7 days after birth. The secretion is scanty. Positive diagnosis is made by finding inclusion bodies in conjunctival scrapings. It is a self-limited disease. The chief cause of tearing in infants, however, is congenital occlusion of the nasolacrimal duct.

WATERY EYES

In adults, watery eyes are often due to excessive mucus; the tears are deficient or absent.

A chronic conjunctivitis with a tenacious secretion is apt to develop, in some cases punctate abrasions of the cornea which take a strain and can be seen with a loupe. These patients are relieved by frequent instillation of Clifford's alkaline buffer solution, glycerine in Locke's solution, a bland oil, or by 1% methyl cellulose. The use of a slightly irritating eye-drop may increase tear formation. Excessive tearing may result from stimulation

of the 5th nerve endings in any part of the face or from occlusion of the lacrimal drainage system, or from simple eversion of the lower tear-points so the tears roll over onto the cheek.

CORNEAL TRANSPLANTS

Newspaper articles regarding corneal transplants have aroused great hopes in blind, or partially blind, people and caused them to make long trips, only to have their hopes shattered. The number of people that can be helped by transplantation is probably less than 1% of the blind.

Telescopic glasses are cumbersome and expensive and the magnification produced causes such marked limitation in the field of vision that their range of application is small.

Retrolental fibroplasia, unknown before 1937, is now the chief cause of blindness in infants. It occurs in a third of the premature infants of less than 3 lbs. at birth.

The chief causes of non-painful red eyes are conjunctival hyperemia, subconjunctival hemorrhage, and conjunctivitis. Hypermia results from excessive close work, irritation from wind, dust, fumes, and radiation. Usually a mild eye-wash—as a weak solution of zinc sulfate containing epinephrine—is sufficient.

Subconjunctival hemorrhages, alarming to the patient, may follow lifting, coughing or straining, or appear without apparent cause. An examination for hypertension and arteriosclerosis is indicated but the chief thing is to reassure the patient that the hemorrhage is not serious and will disappear in about 10 days.

Conjunctivitis may be bacterial, allergic, or traumatic, causes itching, burning, smarting, or foreign-body sensation. As a rule when pain develops in red eyes it means that there is involvement of the cornea or of one of the inner coats of the eye.

Diagnosis chiefly between acute iritis and acute glaucoma, should be made as promptly as possible. Usually the eye with acute glaucoma is stoney hard to palpation; the eye in iritis of normal tension or soft. There are cases in which an increased pressure is secondary to iritis, and, in these cases, the treatment of the iritis becomes primary.

Antibiotics, especially penicillin has replaced yellow oxide of mercury ointment as a "cure-all" for some druggists, nurses, and even doctors. In many cases eyes are sensitized to these antibiotics so they cannot be used later when they are needed. The routine use of penicillin for any general condition has so sensitized the general public that we have practically had to abandon its use to prevent severe local reactions which follow its instillation into the eye in a sensitized person.

If gram-positive organisms, or gram-negative cocci are found, the drugs of choice are: sulfacetamide or Gantrisin; antibiotics, such as bacitracin, Polymyxin-B, and Terramycin, excepting in gonococcal infections for which penicillin is the drug of choice. If gram-negative rods are found, streptomycin, neomycin, aureomycin and chloromycetin are indicated.

CORNEAL INVOLVEMENT

A safe rule is not to use cortisone, either alone or in connection with an antibiotic, in cases of corneal involvement.

All of the anesthetic agents commonly used in the eyes delay or retard the healing of the corneal epithelium. The wool fat and white petrolatum used on bases for ophthalmic ointments cause a similar inhibition. Inform patients of the dangers of the promiscuous use of self-prescribed eye anesthetics.

Nebraska Med. Jour., 38: 400-406, 1953.

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The Use of Insulin in Diabetes

Effects of globulin insulin and NPH insulin injections will last from 18 to 30 hours

T. P. SHARKEY, M.D., *Dayton, Ohio*

The use of insulin does not diminish the importance of accurate diagnosis.

Insulin is capable of doing great harm as well as great good, which is also true of the more recently discovered "wonder" drugs. Each patient with diabetes must be handled as an individual problem; the basis of medical care for all diabetic patients is education about their disease and its control.

Insulin is required 24 hours a day whether food is taken or not. Most diabetic patients have some insulin of their own and require only to have this supply supplemented. To provide insulin throughout 24 h., the regular insulins, which last 4 to 8 h., are combined with various molecules to delay the release of insulin from the site of injection. Effects of an injec. of prot. zinc insulin persists for 24 to 40 h. and are slow in onset. Globin insulin and NPH insulin injec. last 18 to 30 h. and are more rapid in onset, but not nearly as rapid as unmodified insulin.

Most elderly diabetics require no insulin, and almost all obese patients would be better off without insulin, in that they usually have the disease in mild form and insulin tends to perpetuate obesity.

In the majority of those requiring insulin, control is maintained with a single injec. of NPH or globin in-

sulin one hour before breakfast. With the patient following a constant dietary plan, the amount of insulin can gradually be increased until fasting and midafternoon blood sugars are below 140 mg. per 100 c.c. If hypoglycemic reactions occur in the midafternoon and the fasting blood sugar remains high, a milk and bread exchange can be taken from the breakfast and eaten in the midafternoon. If nocturnal reactions occur, a similar ration can be taken from lunch and eaten at bedtime.

HYPERGLYCEMIA

Some patients require more rapid action in the a.m. to prevent a late a.m. hyperglycemia, which may be provided by adding regular insulin to NPH in small amounts or to pmI in ratios of 2:1 or 3:1, 15 min. before breakfast in one injection. If even more rapid effect is required, the regular insulin may be administered by separate injection. Occasionally, in addition to the a.m. injection, an additional small dose of regular insulin will be required at supper time. In a few patients the diabetic condition is best controlled by divided doses of NPH or globin insulin before breakfast and supper.

To determine the best insulin dosage for the patient requires careful observation on a controlled daily diet, with frequent tests of the urine for sugar by the patient and occasional blood sugar tests by the doctor. Subsequently the daily insulin dosage will require variation.

In order to encourage diabetic patients to follow principles which will control their abnormal carbohydrate metabolism, it is important not to overcomplicate the methods of control. Contrarily, oversimplification will lead to laxity of control and increased complications. The use of insulin provides a means by which diabetic patients may be guided to a healthy, full life by intelligent medical management.

Diabetes developing after 60 is in a mild form much like that of the fat diabetic between the ages of 40 and 60, is likely to remain stationary and require less and less insulin as time goes on. A great many older diabetics require no insulin and become aglycosuric on diet alone. Those who require insulin do well on any kind of insulin under 40 units. A report of three patients—of 78, 64, and 65 yrs.—took daily 120, 156, and 120 units of insulin respectively. The older diabetic should be treated with extreme caution to avoid vascular accidents.

Barach found that only 15% of 317 diabetics over 60 years of age required insulin as compared with 60% of his young and middle-aged diabetics. He was careful not to seek normal blood sugar levels. Insulin is not to be used in the obese diabetic or in other older diabetics until an appropriate diet has been tried first. When insulin is substituted for diet, obesity and hyperglycemia, which can usually be dealt with by diet, may necessitate an increased insulin dosage.

OLDER DIABETICS

Use insulin cautiously in older diabetics, not only to prevent shocks, but also to prevent excessive appetite which leads to obesity and further strain on the CV system.

We found the "protamine insulins" cause more reactions than regular insulin and globin insulin. We hesitate to employ the protamine insulins in patients over 40, especially those over 50.

Treatment of the obese diabetic consists of an intake of calories lower than the expenditure of energy.

The use of insulin is contraindicated in most obese patients except for complications.

Ohio Med. Jour. 49: 986, 1953.

Common Complaints of Pregnancy and Methods of Treatment

Nausea and vomiting of pregnancy is usually controlled by means of a high carbohydrate diet eaten in small feedings every hour or two

M. M. MILLER, M.D. & F. A. SEWELL, M.D., *Shreveport, Louisiana*

Our treatment for nausea and vomiting of pregnancy is a high-carbohydrate diet, omitting the three meals a day and eating small feedings every hour or two, one before arising in the morning. If the patient vomits after eating, she should eat again. This routine should be accompanied by a maximum of rest and quiet. These are patients often put on barbiturates and bromides; if there are no results, next try the amphetamine derivatives. If still no improvement give 100 mg. vitamin B_1 IM, and 100 mg. of vitamin B_6 IV, as often as the patient finds it necessary. Very seldom is it necessary to hospitalize a patient and treat with infusions of glucose, saline, etc.

Heartburn and belching in early pregnancy may be controlled by small doses of sodium bicarbonate, milk of magnesia, or soda mints. Small quantities of milk and cream are also of value except in cases in which the heartburn is due to biliary disturbances. During late pregnancy, the anti-acid medications are of value, but no drug containing sodium to be given in large quantities. Excellent results from prostigmine bromide, one 15-mg. tablet t.i.d., particularly in the latter part of pregnancy.

Constipation: A large fluid intake, bulky foods, fruits, and vegetables, and particularly figs, prunes, prune juice and dates; mineral oil, milk of magnesia, and cascara sagrada; enemas as a last resort. Train-

ing in bowel habits is necessary. In diarrhea, a stool specimen examined for amoebas and other intestinal parasites; usually responds to (1) diets high in apple, banana and tea; (2) Kaopectate; (3) milk of bismuth and paregoric in the more severe cases.

Bleeding and/or painful hemorrhoids are best treated by keeping the stool soft, by means of the proper diet, or small daily doses of mineral oil, painful or edematous hemorrhoids replaced in the rectum. If thrombosed, the clot must be removed, usually in the office, and pain relieved by anesthetic rectal suppositories.

Frequency of urination — any infection treated with appropriate medication. If urine is negative, frequency usually due to bladder pressure from the uterus may be relieved by small doses of bromides or barbiturates and/or small doses of hyoscyamus.

Back pain: Low, rubber heels. Heating pads and salicylates also of value. A feeling of heaviness low in the pelvis is often relieved in early pregnancy by the use of a Smith-Hodge pessary, particularly when the uterus is retroverted. Later the knee-chest exercise, elevation of the feet above the head, and a minimum of upright position. After the 4th or 5th month a maternity corset.

Leg cramps: Thiamine hydrochloride has been of some value as well as massage and heat. Quinidine tablets, 1 tablet, t.i.d., have given almost 100% good results; cramps only a night, 1 tablet h. s. will suffice.

Varicose veins: Whenever possible sit instead of standing, lie instead of sitting; lie and elevate the feet above the head is much better. Ace bandages and elastic stockings give much relief; wear no constricting clothing.

Edema: Suspect toxemia but if no other signs or symptoms are found treat symptomatically. Good results from low-salt diet and ammonium chloride, doses of 1 gram, t.i.d.

Little need to treat leucorrhea unless it makes the patient uncomfortable. Trichomonas infections are treated with floraquin suppositories, and proprion jel is found to be very effective in the treatment of moniliasis.

Breast pain, fullness, and tenderness relieved by a well-fitted brassier and massage. Inverted nipples should be drawn out by breast pump, or by suction cups during the prenatal period.

Fainting and dizzy spells, if due to anemia should be treated with iron. Hypotension is a common cause—relieved by increase in rest, particularly in day; small doses of ephedrine or amphetamine derivatives.

Headache: Toxemia ruled out, most headaches during pregnancy are due to tension and are treated best with salicylates, limiting fluids, a low-salt diet, and ammonium chloride.

Insomnia: A hot bath at bedtime and a bedtime snack; readily relieved by bromides and small doses of barbiturates.

Palpitation is treated by reassurance. If BMR is exceptionally high, Lugol's solution may be of value.

Allaying fear and apprehension by reassurance is great aid in minimizing the common complaints of pregnancy. The patient who approaches her delivery without fear and with confidence in her physician seldom has many of these complaints.

Jl. La. State Med. Soc., 106:18, 1954.

Management of Congestive Heart Failure

Anticoagulants reduce the incidence of embolic phenomena, but are dangerous unless they are skillfully administered

H. J. LEHNHOFF, JR., M.D., *Omaha, Nebraska*

Dyspnea results in part from pulmonary congestion and rigidity of the lung, and in part from inadequate blood flow to the respiratory center and the effect of increased CO_2 tension on the respiratory center. Exercise promotes venous return to the heart thereby increasing pulmonary congestion and intensifying dyspnea.

Orthopnea can be explained on the basis of the effect of gravity in increasing pulmonary congestion in the supine position, possibly plus the factor of limitation of diaphragmatic excursion by engorged abdominal viscera.

Edema results from increased venous pressure with consequent increased hydrostatic pressure to a degree where it is no longer counter-balanced by the colloidal osmotic pressure of the blood. Of equal importance is the renal retention of sodium and water.

Gallop rhythm is predicated on incomplete emptying of the ventricles, or the rapid inflow of blood into an inefficient, flabby ventricle. It is intensified by exercise, and heard best at the cardiac apex, as a long rumbling murmur.

Systolic gallop rhythm is a much less serious finding than diastolic.

Pulsus alternans is the result of impaired contractibility of the heart muscle; it is of grave prognostic significance.

Decompensation due to hyperthyroidism, beriberi, pericarditis, infections, anemia, trauma, and congenital cardiac lesions, must be treated

specifically: e.g., desiccated thyroid extract to the patient with myxedema heart is much more important than digitalization or salt restriction.

Treatment of congestive failure has two essential features, decreasing the cardiac load, and increasing myocardial efficiency. Rest, emotional and physical, is the first principle. Rest includes the provision of easily digestible food, and adequate sedation.

There should be sodium restriction, not exclusion. Water restriction is not necessary, in fact it can produce refractory heart failure by hypertonic dehydration of the blood.

Mercurial diuretics very effectively augment Na Cl depletion. In the absence of acute nephritis they can be used daily. Oral mercurial diuretics are efficient, and have provided many patients with comfortable existence including less drastic salt restriction. They are much more palatable than the cation exchange resins, and, in experienced hands are just as safe and efficient.

Salt depletion and the generous use of mercurial diuretics can lead to vascular collapse, anuria, and death. Replacement of Na Cl IV by careful use of 2-5% sol. is indicated. Chlorides may be depleted producing hypochloremic alkalosis. Ammonium chloride, 7-8 grams daily will remedy this situation and act as diuretic.

Basic ions may also be carried off with the lost chlorides. Potassium, in particular, should be maintained at optimum levels by the generous use of fruit juices, which are low in Na and high in K, or by the administration of KCl.

Anticoagulants reduce the incidence of embolic phenomena, but they are dangerous unless administered skillfully.

The duration and the degree of required rest can not be measured arbitrarily.

Straining on a bed pan may exhaust more energy than use of the comfortable bedside commode.

It is usually most practicable to continue digitalis indefinitely if the patient has once required digitalization. The maintenance dose is variable and may require frequent modification. Either the powdered leaf of Digitalis purpurea or a digitoxin preparation with the action of which the physician is well acquainted. In general, lanatoside C, digoxin, digilanid or digalen, is used for rapid digitalization.

Withering's wise observations regarding digitalis too frequently ignored today: "The drug should be continued until it acts either on the kidneys, the stomach, the pulse or the bowels; let it be stopped upon the first appearance of any of these effects."

"The patient should be enjoined to drink freely during its operation."

The more we multiply the forms of any medicine, the longer we shall be in ascertaining its real dose.

Nebraska S. Med. Jl, 39:46, 1954.

Diagnosis of Shoulder Pain

Frequently, histories of some type of injury preceding the onset of "bursitis" are given, however, the basic defect is degeneration of the tissues

M. B. COVENTRY, M.D., *Rochester, Minnesota*

Calcareous deposits and partial and complete tears of the shoulder cuff plus the purely traumatic sprains and strains, constitute the most common causes of shoulder pain. The lesion popularly known as "bursitis," more properly "tendinitis," is the result of degenerative change in the tendons and is a secondary phenomenon. Patients frequently give histories of some type of injury preceding the onset of pain. The basic defect is degeneration of the tissues; trauma is only a precipitating factor.

The onset of severe, acute, motion-limiting pain in the shoulder usually indicates an acute calcareous tendinitis. Chronic pain may have been felt for months or years before. Tenderness is usual over the involved tendon, as a rule that of the supraspinatus, although the pain may be more general and referred to the attachment of the deltoid muscle. Motion is limited in all directions. X-rays reveal calcareous deposits in the musculotendinous cuff; deposits are sometimes difficult to find, and x-rays are required in two or more projections. Deposits occur only rarely in the subacromial bursa.

Attritional changes without calcific deposit present the same clinical picture but give no x-ray evidence. Tenderness is usual over the degenerated portion of the tendon and pain may be referred into the insertion of the deltoid tendon or down to the hand. Motions are not limited, except by pain, unless periarthritis has developed.

When the diagnosis is difficult, injection of procaine H Cl is made directly into the tendon and relief of all pain is achieved, especially on full abduction and rotation, the patient is unable to abduct the humerus before the injection, but can do so afterward. The musculotendinous cuff is little affected. If the patient is unable to abduct after pain has been relieved, a complete tear of the musculotendinous cuff is probable, and surgical repair is required. Injection of anesthetic agents into "trigger" zones secondary to cervical radiculopathy also tends to relieve the pain. These latter regions, however, usually are subcutaneous and not in the tendon.

The initial cause of pain in the shoulder may be irritation of the roots of the cervical nerves, "cervical syndrome." A history of trauma is common, maybe many years previously, with subsequent bouts of stiff neck or "crick" in the neck and aching pain in the region of the trapezius. Pain in the neck with referral into the shoulder may be caused by hyperflexion or hyperextension of the neck. Pressure on top of the head while it is rotated to the right or left also may cause reproduction of the pain. There may be paresthesia, anesthesia, and occasionally motor involvement, with diminished reflexes or atrophy or both. Results of examination of the central nervous system more frequently are negative. "Trigger" points may be found in the occipital region (with frequent headache) in the scapular or the deltoid region.

Degenerative lesions in the cervical portion of the spinal column can be found in almost every patient more than 40. Narrowing of intervertebral disks, hypermobility, x-ray views during flexion and extension of the neck and encroachment on intervertebral foramina are all important signs when coupled with the history. Both flexion and extension cause pressure or strain on the roots of the cervical nerves. Those who drive much may notice that pain comes while they are fatigued and while their necks are either hyperextended or hyperflexed. Typists working over their desks frequently give the same story. A frequent cause is reading in bed with a pillow propped behind the head.

Wisc. Med. Jl, 53:299, 1954.

Outline of Estrogenic Therapy

Estrogens should be administered orally with but few exceptions. If the physician is interested in the psychic effect of "needle" medication, there are better methods of psychosomatic therapy.

Complete substitution of ovarian function in a young woman can be attained by the daily administration of 1 mg. of diethylstilbestrol by mouth. This dose can be cut in half in 6 months and the patient maintained on this reduced amount indefinitely. The patient who has some ovarian function may need much less estrogen — sufficient only to compensate for her deficiency. In some conditions, such as carcinoma of the breast, much larger doses of estrogen may be required.

Estrogens will cushion the transition from the active, reproductive years to the postmenopausal period, suppress the troublesome menopausal symptoms, slow up the regression of the reproductive organs, and allow a more orderly restoration of endocrinal balance.

Every woman who exhibits vaginal bleeding on estrogenic medication and in whom the bleeding does not stop promptly on discontinuing the hormone, should have a careful pelvic examination including a curettage.

Estrogens are extremely useful in the treatment of postmenopausal vaginitis and sequelae. Mucosal atrophy of the vagina often causes changes about the urethra and bladder, leading to bladder irritability and urinary discomfort. Small daily amounts — as 0.5 mg. of diethylstilbestrol orally or half this dose in a vaginal suppository — will convert the atrophic senile mucosa into that of the mature woman. The irritating vaginal discharge, the burning and smarting, and the bladder discomfort disappear rapidly.

Estrogens during adolescence hasten epiphyseal closures and bring

(Continued from preceding page)

skeletal changes to the point of maturity. They are useful in Paget's disease and in osteoporosis.

For suppression of engorgement of the breasts and lactation, 5 mg. of diethylstilbestrol daily for from 8 to 10 days, and it must be started immediately after delivery.

Pituitary inhibition is likewise responsible for the relief of pain in dysmenorrhea. Estrogens suppress the gonadotropic function of the pituitary and prevent ovulation. The resultant bleeding period is free from pain.

Menstrual irregularities are not treated satisfactorily with estrogens.

Estrogens are used as a temporary expedient to stop dysfunctional uterine bleeding. In this case, the therapy stimulates increased endometrial proliferation, but its withdrawal is followed by the recurrence of bleeding and much endometrial denudation. This so-called "medical curettage" may be therapeutically effective until normal ovarian function is resumed. Bleeding episodes induced in the young woman with amenorrhea are the result of the local action of estrogens on the endometrium.

There are no data which definitely implicate estrogens in the development of cancer.

M.E. Davis, *Jl Clin. Endocrinol. & Metab.*, Nov., 1953.

Vaccination Against Influenza

Since it is impossible to predict just what strain of virus might cause epidemics in the future, most vaccines and all of those commercially available contain a number of strains. To the older strains such as PRS, recently isolated strains such as the FW/1/50 or the FLW/1/52 have been added to furnish the newly appearing antigenic components for type A. Since type B influenza has occurred at 6-year intervals and the antigen seems to have a greater capacity to produce immunity responses over a broader antigenic range, only 1 strain, "Lee," is usually employed.

A vaccine has recently been developed containing a light mineral oil as an adjuvant. A number of studies in the military and civilian populations give promise that this vaccine will produce more effective immunity; not yet available for general use.

Many industries are now encouraging vaccination programs among their employees and last winter overseas military personnel were vaccinated, although apparently too late to reduce the incidence. Whether or not children should be vaccinated would depend on the decision of the family physician. However, the low fatality rate in children, even in 1918, and the usually benign course of the illness, make one hesitate to advocate extensive vaccination in children with the products now available.

Vaccination against influenza cannot be expected to protect against ordinary bronchitis or the common cold, the group which accounts for the vast majority of respiratory illnesses. One should not expect much of this method of prophylaxis at the present time.

D.J. Davis, *Med. An. District of Columbia*, 22: 643, 1953.

Recognition of Otitis Media

All of us are guilty of neglect and thereby share responsibility for many partially deaf children. We simply fail to recognize serous otitis media. The patient usually will make the diagnosis for the alert physician. "When I speak, it seems as if my head is in a barrel. There is a roar in one of my ears and partial deafness. My condition came on suddenly. I can hear normally when I first get out of bed in the morning but very soon my hearing leaves me."

Brief tuning-fork examination reveals a partial conductive deafness in the affected ear. Appearance of the handle of the malleus *in a normal ear* is like a piece of cigarette paper lying over a match on top of a table; *in a fluid ear* to a cigarette paper lying over a match floating over a surface of water, thus causing a close adherence of the paper to the match. If the ear is completely filled with fluid, if there is a meniscus or an obvious bubble, the diagnosis leaps out at the observer.

A small paracentesis is almost painless, entirely safe, and conclusive. There is immediate relief when the fluid is removed. Make a paracentesis of ⅛ in. in the postero-inferior part of the drum head near the annulus, in one quick movement with a small bayonet knife. It is not painful and few physicians attempt local anesthesia. If there is external otitis, postpone paracentesis until the ear is clean.

We must examine every child routinely two weeks after an infectious ear is treated, as well as listen carefully as a patient tries to tell us that he has fluid in his ear.

W.B. Norman, *Texas State Jl of Med.*, 50:280, 1954.

Symptoms Poor Index of Degree of Anemia

A total of 360 housewives, attending miniature x-ray examination and found free from tuberculosis, accepted the offer of a hemoglobin test. They were asked to answer the following questions:

Do you feel fit? Average? Below par?

Do you suffer from: Breathlessness? Poor appetite? Always feel tired; lack of energy? Swelling of ankles?

Do you need to take a laxative once a week or more?

There was no difference in average hemoglobin level between those that did and those that did not complain of these symptoms. Those whose hemoglobin level was below 73% were in rather larger proportion in the group which complained of symptoms; but the differences were not greater than could occur by chance.

The symptoms that we are dealing with are common today, as indeed the number of positive replies to our

questionaire suggests. Whether this has always been the case it is impossible to say; and, in any event, this is less important than to know the cause.

Anemia, to us, seemed to be one of the possible causes in practice, but it is clear from the analysis of our data that this is in fact not so.

W. T. C. Berry, M.D., et al, *British Medical Jour.* 4867:918, 1954.

On History Taking

An ounce of history is often more meaningful, more pertinent and revealing than a pound of objective findings. It brings to light the real problem and should be the guiding star of the whole examination. One cannot be careful enough in his investigation into the patient's habits with regard to alcohol, nicotine, coffee, and nowadays benzedrine as well. Recently two mysterious syndromes were cleared when it was found that the patient drank 16 cups of coffee a day, and in the other case, the patient took an unbelievable amount of benzedrine.

The time we take in asking the right questions is never wasted. History-taking is, at the same time, the best opportunity for psychiatric examination, for assessment of the patient's mental status, his memory, his judgment; it is the best method by which to gain the patient's confidence and to allow him to find what he is looking for first of all—the physician's interest in his case.

To take a careful, pertinent history is much more difficult than to make a thorough neurologic examination. The doctor, guided by the "sense for the essential," must guide the patient and steer the conversation. The doctor must strictly avoid any suggestion to the patient of symptoms which he, the examiner, expects to be present. The doctor must understand the terms used by the patient — as the patient understands them. "Dizziness," "weakness," "pain," are not of much diagnostic help, unless they are carefully analyzed and their connotation understood equally by doctor and patient. The patient — reader of popular medical columns — misuses many of the simplest medical terms. His "neuritis" may be no neuritis at all. Uncritical acceptance of the patient's story may prove disastrous.

A history taken with sympathy and interest will contribute towards the main goal: that the patient leave the office feeling better than when he entered.

R. Wartenberg, *Current Med. Dig.* 21:30, 1954.

Hyperparathyroidism

The onset of this condition produces bizarre and ill-defined symptoms, which may easily be overlooked unless blood calcium studies are done. The average duration of symptoms before surgical treatment has been 5 to 7 years.

An adequate classification of symptoms is as follows:

Chronic constipation, muscle weakness, cardiac arrhythmia and occasional slow pulse; lithiasis, polyuria and polydipsia, enuresis, nocturia, and dysuria; pain in joints and bones, spontaneous fracture, cysts in long bones and skull, deformity of bony structure, waddling gait and inability to walk.

The only treatment is surgical. Parathyroid hormone may be necessary postoperatively. Administration of calcium gluconate, calcium lactate, dekatol, or Drisdol is also of benefit.

One case emphasizes the need to investigate any bone cyst, particularly of the mandible, to determine if hyperparathyroidism exists.

R. E. Hobler, M.D., *N.Y. State Jl of Med.*, 54:1457, 1954.

Treatment of Soft Tissue Infections with an Aureomycin-Triple Sulfonamide Combination

In an effort to reduce the effective dosage of aureomycin and because it is apparent that organisms responsible for this type of infection (mainly gram-positive cocci) are becoming increasingly resistant to the common antibiotics, agents designed to potentiate the activity of aureomycin were combined with it.

Many patients were febrile, and all showed signs of inflammation of the body area involved. Most had received no previous treatment with antibiotics or chemotherapeutic agents. On admission to the hospital cultures for bacteriologic study were obtained in all but 8 cases before the institution of therapy. Surgery of infected wounds was performed as indicated and was done as soon as feasible.

Effective treatment of 55 soft-tissue infections was accomplished through the use of an aureomycin-triple sulfonamide mixture. The average daily dose of the antibiotic as contained in the mixture was 0.5 gm. Clinical results were equally as good as those obtained in an early study with a daily dose of 1 gm. of aureomycin used alone.

No signs of toxicity appeared which could be attributed to the use of the drug mixture. Diarrhea did not occur in any case.

This drug combination is available in tablet form only. For soft tissue infections in adults the recommended dosage is one tablet four times daily until the acute signs of infection have disappeared plus dosage for an additional day or two. With each tablet 5 grains of sodium bicarbonate should be administered to maintain an alkaline urine. Each tablet contains 125 mg. of aureomycin and 167 mg. of each of the three sulfonamide.

J. C. Dilorenzo, M.D., et al., New York City, *N. Y. State Jl of Med.*, June 1, 1954.

Iron Therapy in Pregnancy

Only ferrous iron is absorbed by human beings. There is no suggestion that vitamins, folic acid, or vitamin B_{12} will increase the absorption or utilization of iron.

Iron therapy should aim at not only restoring a normal hemoglobin but at replacement of the reserves. Assuming a maximum daily absorption of 5 mg., oral iron therapy should be continued for a minimum of 200 days after the hemoglobin in normal.

Indications for the use of IV iron include conditions in which iron deficiency exists and: (1) where oral iron is not tolerated, (2) where oral iron is contraindicated, and (3) where rapid hemoglobin regeneration is required. Unless one of these requirements is met, the iron is easier and safer to administer orally. Until the safety of larger doses of IV iron is clearly established, total dose of iron should never exceed 3 gm.

35 pregnant patients with iron-deficiency anemia were treated with IV iron; daily increase in hemoglobin was twice the daily increase when oral iron was used.

75% of pregnant patients manifest some degree of iron deficiency and anemia. In 80% normal blood values can be maintained if an iron supplement is given for at least 3 months of the pregnancy. Evidence suggests that iron and cobalt provide the most effective hematinic for pregnant women.

Iron-deficiency anemia in pregnancy can be effectively treated by means of oral iron continued for long periods in order to replenish iron reserves. IV iron can be safely and easily used to correct iron-deficiency anemia.

R.G. Holly, M.D., *Journal-Lancet*, 74:211, 1954.

Anesthesia for the Patient in Shock

The majority of shock patients under our care receive pentothal-nitrous oxide anesthesia. A relaxant, usually succinyl-choline chloride by drip technique, or ether is added as indicated. There is evidence that barbiturates do not greatly affect the outcome for experimental animals which have been thrown into hemorrhagic shock. The analgesic effect of nitrous oxide can be obtained with concentrations which do not deprive the patient of oxygen. A rapidly hydrolyzed relaxant such as succinyl-choline chloride aids in placing an endotracheal tube in position, as well as obtaining the relaxation of muscles necessary. The vasodilation produced by light ether anesthesia is not detrimental to a patient in shock, and might well be of some advantage in shock therapy.

Emphasis is placed on the importance of restoring the blood volume as rapidly as possible.

S.S. Clark, *Jl Kentucky State Med. Asso.*, 52:177, 1954.

Tyrosine in the Allergic State

My purpose is to report personal experience with the use of a tyrosine compound in the handling of various acute and chronic allergic disorders. This is a new and entirely different approach to the problem, and is based on the fact that the amino acid tyrosine, which is one of the precursors of the epinephrine series, might increase the body stores of adrenalin or adrenalin-like substances when force-fed to patients exhibiting the allergic symptom complex.

The drug has often been used empirically, without attempt to identify the causative allergens.

	Treated	Arrested	Improved	Not improved
Allergic rhinitis	52	9	33	10
Hay fever (perennial)	7		6	1
Asthma (over 7 years)	8		8	
Asthma (under 7 years)	8		5	3
Food allergy	12	3	8	1
Histamine headache	5		5	
Atopic eczema	26	3	16	7
General urticaria	4		3	1
Contact dermatitis (rhus, etc.)	27	1	22	4
Drug eruption (penicillin, etc.)	1	1		
Chronic sinusitis	4		4	
Allergic conjunctivitis	4	1	2	1
	158	18 (12%)	112 (70%)	28 (28%)

Infants of 2 to 12 months are given from 2 to 4 tablets daily, according to severity of the symptoms. Older children are given more, and adults from 10 to as many as 20 tablets daily. There have been no side effects even from the taking of 32 tablets daily.

Table 1 shows the number of cases treated and the clinical results in each type of allergic disorder.

Tyrosine compound should be tried further and promises thus far to be a valuable aid in the therapy of various allergic states, and particularly effective in pediatric practice.

C.E. Conner, *Northwest Medicine*, 53:353, 1954.

Erythromycin as an Adjunct to Antitoxin Diphtheria

The aim of treatment of diphtheria is neutralization of the toxin and elimination of bacteria from the throat. Diphtheria antitoxin is effective in neutralizing the toxin which continues to be produced until the bacteria cease to multiply.

The bacteria persist in the throat an average of 33 days in patients treated with antitoxin alone. Penicillin, chlortetracycline (Aureomycine) and oxytetracycline (Terramycine) eliminate the bacteria from the throat in 3 or 4 days. No observable difference in the clinical course was noted in acute cases treated with antitoxin and penicillin and those treated with antitoxin alone.

The low incidence of acute diphtheria in this community at present offers real difficulty in the evaluation of newer therapeutic agents. From April to November, 1953, erythromycin was administered to 3 patients with acute pharyngeal diphtheria and to 1 diphtheria carrier. In all 4 patients the organisms were cleared from the nose and throat within 24 hours, and repeated cultures were negative for *C. diphtheriae* during the period of hospitalization. Two patients with acute disease received antitoxin in addition to erythromycin. The patient with the mild case and the diphtheria carrier were treated with erythromycin alone.

The availability of an intravenous preparation increases its usefulness in the very sick patient.

Erythromycin is advocated as an adjunct and not as a substitute for antitoxin in acute diphtheria.

J. F. Blute, Jr., M.D., *New England Jl of Med.*, July 8, 1954.

The White Blood Cells in Health and Disease

Barry Wood, in an ingeniously planned and logically developed sequence of studies, has recently reemphasized the importance of the role played by the polymorphonuclear leukocyte in acute infections: "phagocytosis of the bacteria appears to be the decisive factor in the natural resistance of the host," since, "were it not for surface phagocytosis, untreated patients infected with such well-armored microorganisms as pneumococci or Friedlander's bacilli, would invariably die long before antibodies could come to their rescue."

If a superimposed infection with streptococci is introduced during the leukopenic phase of infection with the influenza virus, no leukocytosis follows, and a blood stream invasion may occur with serious, or even a fatal septicemic outcome. If 60 to 90 days following recovery from the initial hemolytic streptococcus infection, a reinfection with the same organism is accomplished, there may be no outward clinical manifestations and no increase in the circulating leukocytes. While chemotherapeutic and antibiotic agents are a real help in the presence of many infections, it is becoming more and more apparent that a good natural defense, with first cellular and then humoral antibody mobilization, is the best guarantee both for the present and for the future health.

C. A. Doan, *Bul. N. Y. Acad. of Med.*, June, 1954.

LITERATURE SERVICE

Arrangements have been made to forward you the most recent literature available on the conditions listed below. Please indicate on the yellow self-mailer the information you desire by circling the appropriate number.

Allergies

1 allergic reactions
2 asthma
3 asthma (bronchial)
4 drug sensitivities
5 eczema
6 food
7 hay fever
8 urticaria

Blood, Cardiovascular

9 anemia
10 anemia (pernicious)
11 anticoagulant
12 arteriosclerotic peripheral vascular disease
13 angina pectoris
14 Buerger's disease
15 cardiovascular disorders
16 congestive heart failure
17 cardiac asthma
18 coronary arteriosclerosis
19 coronary thrombosis
20 chronic trenchfoot
21 dietetic restriction
22 hypertension
23 myocardial failure
24 myocardial insufficiency
25 peripheral neuritis
26 Raynaud's disease
27 thromboangiitis obliterans
28 varicose veins

Dermatology

29 acne
30 athlete's foot
31 bacterial dermatologic condition
32 bed sores
33 burns
34 dermatoses
35 eczema
36 external ulcers
37 fungus diseases
38 infections
39 ivy dermatitis
40 pruritus
41 topical infections
42 yaws

Endocrinology

43 adrenal gland
44 cretinism
45 diabetes
46 exophthalmic goiter
47 Graves' disease
48 hyperthyroidism
49 myxedema
50 pituitary gland
51 thyroid gland
52 thyrotoxicosis

Eye, Ear, Respiratory

53 bronchitis
54 choroiditis
55 coughing
56 eye infections
57 ear infections
58 iritis
59 keratitis
60 laryngitis
61 nasal congestion
62 night blindness
63 otologic dermatosis
64 pharyngitis
65 respiratory infections
66 sympathetic ophthalmia
67 sinusitis
68 tonsillitis
69 uveitis
70 vasomotor rhinitis

Gastrointestinal, Liver and Spleen

71 amebiasis
72 colitis
73 constipation (chronic)
74 cirrhosis of liver
75 constipation
76 diarrhea
77 gallbladder and bile ducts
78 gastrointestinal spasm (functional)
79 gastroduodenal bleeding
80 peptic ulcer
81 staphylococcic infections
82 streptococcic infections

Genito-Urinary

83 bladder diseases
84 cystitis
85 kidney diseases
86 prostate gland
87 pyelitis
88 ureteral diseases
89 urinary tract infections
90 urethral diseases

Geriatrics

91 anemia
92 arteriosclerosis
93 cardiac edema
94 chronic fatigue
95 climacteric (male)
96 constipation
97 insomnia
98 low blood sugar level
99 protein deficiency
100 senility (male)
101 senility (female)
102 vitamin deficiencies

Gynecology and Obstetrics

103 amenorrhea
104 cervicitis
105 climacteric (female)
106 conception control
107 dysmenorrhea
108 vaginitis
109 habitual abortion
110 leukoplakia (vulvar)
111 leukorrhea
112 menopause
113 menometrorrhagia
114 pregnancy tests
115 premenstrual disorders
116 postpartum bleeding
117 pregnancy (nausea & vomiting)

Infectious Diseases

118 brucellosis
119 pneumonia
120 Rocky Mountain spotted fever
121 tuberculosis

Neuromuscular

122 analgesia
123 joint and muscle pain
124 muscle dysfunction
125 muscle spasm
126 multiple sclerosis
127 neuralgia ischiatica
128 neuritis, diabetic
129 osseous and neuromuscular disturbances
130 Parkinsonism

Nutrition

131 anemia
132 avitaminoses
133 impaired fat metabolism
134 malnutrition
135 mineral deficiences
136 obesity
137 multi-vitamin deficiences
138 pellagra
139 protein deficiency
140 vitamin deficiencies
141 multiple deficiences

Pediatrics

142 bowel habits
143 diarrhea
144 diaper dermatitis
145 ear infections
146 formulas
147 infantile eczema, nutritional needs
148 scurvy

Rheumatic and Arthritic Diseases

149 arthritis
150 bursitis
151 gout
152 gouty arthritis
153 musculoskeletal pain
154 rheumatic disease
155 rheumatic fever
156 rheumatoid arthritis

Miscellaneous

157 alcoholism
158 barbiturate poisoning
159 debridement of necrotic tissue
160 edema
161 edema (salt retention)
162 industrial dermatoses
163 meningingitis
164 insomnia
165 nervous tension
166 psychoses

NEW PHARMACEUTICAL PRODUCTS

Monodral *(Winthrop-Stearns)* Anticholinergic agent. *Indications:* For peptic ulcer, hyperacidity, gastritis, pylorspasm, etc. *Dosage:* As determined by physician. *Supplied:* In bottles of 100 caplets.

Neo-Polycin *(Pitman-Moore)* Topical preparation of polymyxin, bacitracin and neomycin. *Indications:* all types of superficial skin infections. *Dosage:* Spread thinly over the infected area with or without dressing. *Supplied:* In 15 gm. tubes.

Delatestryl Solution *(Squibb)* *Indications:* androgen therapy in both male and female. *Dosage:* As determined by physician. *Supplied:* 5 cc. multiple dose vials.

Artamide *(Wampole)* Each white, coated tablet contains 0.25 gm. salicylamide, 0.25 gm. PABA, 20.0 mg. ascorbic acid, and 10.0 mg. 'Organidin.' A preparation for maintenance of high salicylate blood levels. *Indications:* rheumatoid arthritis, rheumatic fever, osteoarthritis, fibrositis, gout. *Dosage:* 2 tablets three or four times daily. *Supplied:* bottles of 100 and 500 tablets.

Achromycin Ointment *(Lederle)* 3% tetracycline hydrochloride in a petrolatum-wool fat base for topical application. *Indications:* superficial infections of the skin and prevention of infection in wounds or abrasions and after surgery. *Dosage:* topical application. *Supplied:* ½ and 1 oz. tubes.

Serpasil Apresoline Tablets *(Ciba)* Each scored tablet contains 0.2 mg. Serpasil and 50 mg. Apresoline. A tranquilizer - antihypertensive combination. *Dosage:* ½ to 1 tablet 3 or 4 times daily. *Supplied:* In bottles of 100.

Neosporin Antibiotic Ointment *(Burroughs Wellcome)* Each gram contains 'Aerosporin' sulfate polymyxin B sulfate 5000 units, bacitracin 400 units, neomycin sulfate 5 mg. *Indications:* prevention and treatment of all topical bacterial infections. *Dosage:* As determined by physician. *Supplied:* ½ ounce tubes with applicator top.

Orexin Tablets *(Stuart)* Each tablet contains B_{12} (U.S.P. crystalline) 25 mcg., B_6 (pyridoxine Hcl. 5 mg.) B_1 (thiamine mononitrate) 10 mg. *Dosage:* One tablet daily. *Supplied:* bottles of 30 and 100.

Hydrocortone Lotion *(Sharp & Dohme)* Contains hydrocortisone 1%. *Indications:* topical therapy. *Dosage:* small quantity of the lotion is applied to the affected areas 2 to 3 times daily. *Supplied:* 15 cc. plastic bottles.

Cholografin *(Squibb)* A water solution of a crystalline substance which is excreted relatively preferentially by the liver. *Indications:* to make x-ray visualization of the bile ducts possible. *Administration:* by intravenous injection. *Dosage:* As determined by physician. *Supplied:* A 20% sterile aqueous solution in 20 cc. ampuls.

BOOK REVIEWS

FRENCH'S INDEX OF DIFFERENTIAL DIAGNOSIS, edited by Arthur H. Douthwaite, M.D., F.R. C.P., Senior Physician, Guy's Hospital. 7th edition, with 731 illustrations of which 200 are in colour. The Williams and Wilkins Company, Mt. Royal & Guilford Aves., Baltimore, Md. 1954. $20.00

This edition of French's great work, the first to be issued since his death, represents considerable reconstruction. The greatly increased scope of investigation by accessory aids necessitated the inclusion of much new material, and in many instances entire rewriting. Obsolete material has been deleted; judicious pruning has abbreviated and a rearrangement and cross referencing of the index all have made the book more valuable for daily use.

As a book of practical utility in deciding on the cause of any particular symptom or set of symptoms of which a patient may complain, it may well be doubted if this book has an equal.

GERMAN-ENGLISH DICTIONARY FOR PHYSICIANS, in 2 volumes, by Prof. Dr. Med. Dr. phil. Dr. med. dent. Fritz Lejeune, Vienna/Hamburg. Vol. 1 *German-English*. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, N. Y. 1952. $6.00

GERMAN - ENGLISH ENGLISH - GERMAN DICTIONARY FOR PHYSICIANS, in 2 volumes, by Prof. Dr. Med. Dr. phil. Dr. med. dent. Fritz Lejeune, Vienna/Hamburg, and Werner E. Bunjes Lecturer in English at the Germersheim Interpreters' College of Mainz University. Volume 2 *English-German*. Grune & Stratton, Inc., 381 Fourth Ave., New York 16, N. Y. 1954. $14.00

These two volumes are put out in such form as to meet the needs of doctors who would require the information contained in either the one or the other, as well as the needs of a larger number who would desire both volumes.

The work is complete and authoritative; a feature of decided advantage is that the German words are spelled in type to which English-speaking persons are accustomed.

DISEASES OF THE LIVER, Mitchell A. Spellberg, M.D., F.A.C.P., Associate Professor of Clinical Medicine, University of Illinois School of Medicine, Grune & Stratton, Inc., 381 Fourth Ave., New York 16, N. Y. 1954. $16.50

This book is written from the viewpoint of a clinician, for clinicians. It is recognized that a mist envelops many problems of liver disease. An earnest endeavor has been made to dispell this mist in so far as this is possible. The anatomy and physiology are discussed so far as necessary as they relate to diagnosis and treatment. The various diagnostic tests are evaluated as to worth in various liver diseases, their techniques being given in ample detail.

This is a splendid compilation, ably presented, of what is now known of diseases of the liver.

ATLAS OF ORTHOPEDIC TRACTION PROCEDURES, by Carlo Scuderi, B.S., M.D., M.S., Ph.D. Clinical Associate Professor of Surgery, University of Illinois; Professor of Surgery, Cook County Graduate School. With 124 illustrations. The C. V. Mosby Company, 3207 Washington Blvd., St. Louis 3, Mo. 1954. $12.50

The author expresses the purpose of this book to be the filling of a definite gap in orthopedic literature by photographs, line drawings and simple descriptive language. During his many years of teaching, he has frequently searched for a book or manual which would illustrate in simple, yet complete, detail how to set up an orthopedic traction. Says Dr. Carol E. Badgley, Professor of Orthopedic Surgery in the University of Michigan: "Gathered in this volume are the important features essential for successful use of orthopedic traction procedures." Evidently, the author has provided a book, the like of which he sought in vain.

MANUAL OF CLINICAL MYCOLOGY: By Norman F. Conant, Ph.D., Professor of Mycology and Associate Professor of Bacteriology, and Associate in Duke University School of Medicine, and Donald S. Martin, M.D., Chief, Bacteriology Section Communicable Disease Center, Chamblee, Georgia. New, 2nd Edition. 456 pages with 202 figures. W. B. Saunders Company, Philadelphia and London. 1954. $6.50

Fungus infections have become of far more frequent occurrence since the introduction of antibiotics. For a score of years Duke Medical School and Hospital have occupied an authoritative position in this field of study. This edition has been revised and enlarged to keep pace with advancements made at Duke and elsewhere.